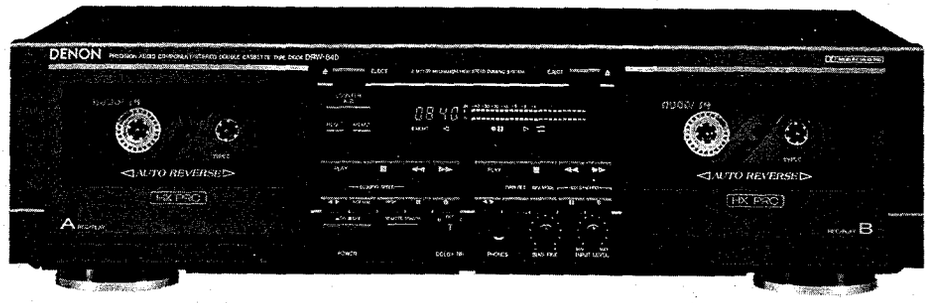
DENON

Hi-Fi Component

SERVICE MANUAL

MODEL DRW-840

STEREO CASSETTE TAPE DECK



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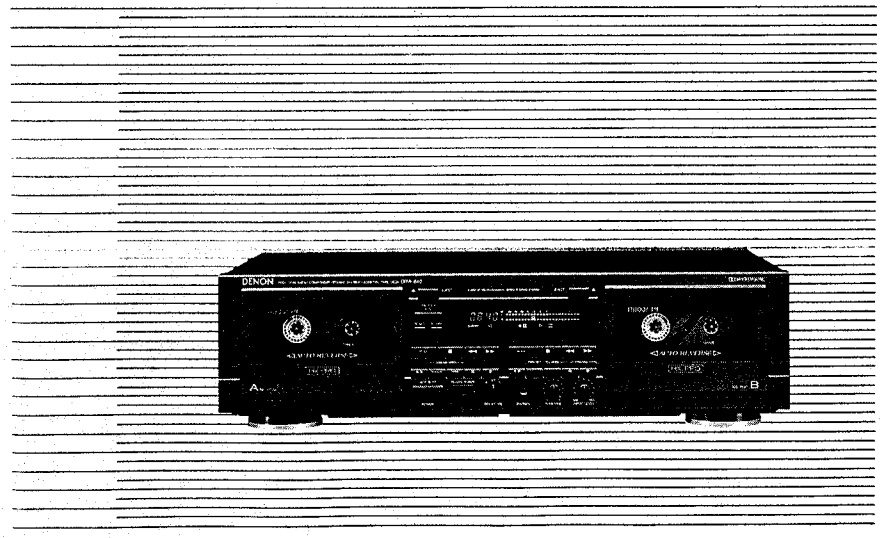
NIPPON COLUMBIA CO., LTD.

DENON

STEREO CASSETTE TAPE DECK

DRW-840

OPERATING INSTRUCTIONS



IMPORTANT TO SAFETY

WARNING:

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION:

1. **Handle the power supply cord carefully**
   Do not damage or deform the power supply cord. If it is damaged or deformed, it may cause electric shock or malfunction when used. When removing it from wall outlet, be sure to remove by holding the plug attachment and not by pulling the cord.
2. **Do not open the top cover**
   In order to prevent electric shock, do not open the top cover. If problems occur, contact your DENON DEALER.
3. **Do not place anything inside**
   Do not place metal objects or spill liquid inside the cassette tape deck. Electric shock or malfunction may result.

Please, record and retain the Model name and serial number of your set shown on the rating label.
Model No. DRW-840 Serial No. _____

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user of the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instruction in the literature accompanying the appliance.

• **FOR U.S.A. & CANADA MODEL ONLY**

CAUTION

TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

• **POUR LES MODELES AMERICAINS ET CANADIENS UNIQUEMENT**

ATTENTION

POUR PREVENIR LES CHOCS ELECTRIQUES NE PAS UTILISER CETTE FICHE POLARISEE AVEC UN PROLONGATEUR UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT.

IMPORTANT (BRITISH MODEL ONLY)

The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral Brown: Live

The colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows.
The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

FOR YOUR SAFETY
(AUSTRALIAN MODEL ONLY)

To ensure safe operation, the three-pin plug supplied must be connected only with a standard three-pin power point which is effectively earthed through the normal household wiring.
Extension cords used with the equipment must be three-core and be correctly wired to provide connection to earth. Wrongly wired extension cords are a major cause of fatalities.
The fact that the equipment operates satisfactorily does not imply that the power point is earthed and that the installation is completely safe. For your safety, if in any doubt about the effective earthing of the power point, contact a qualified electrician.

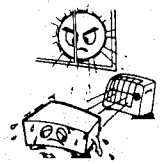
• **NUR FÜR EUROPÄISCHE MODELLE**

Konformitätserklärung

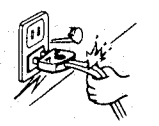
Die DENON Electronic GmbH
Halskestraße 32
4030 Ratingen 1

Erklärt als Hersteller/Importeur, daß das in dieser Bedienungsanleitung beschriebene Gerät den Technischen Vorschriften für Ton- und Fernseh-Rundfunkempfänger nach der Amtsblattverfügung 868/1989 (Amtsblatt des Bundesministers für Post und Telekommunikation vom 31. 8. 1989) entspricht.

NOTE ON USE/HINWEISE ZUM GEBRAUCH/OBSERVATIONS RELATIVES A L'UTILISATION NOTE SULL'USO/NOTAS SOBRE EL USO/ALVORENS TE GEBRUIKEN/OBSERVERA OBSERVAÇÕES QUANTO AO USO

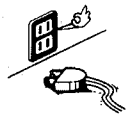


- Avoid high temperatures
  Allow for sufficient heat dispersion when installed on a rack.
- Vermeiden Sie hohe Temperaturen
  Beachten Sie, daß eine zureichende Luftzirkulation gewährleistet wird, wenn das Gerät auf ein Regal gestellt wird.
- Éviter des températures élevees
  Tenir compte d'une dispersion de chaleur suffisante lors de l'installation sur une étagère.
- Evitate di esporre l'unita a temperature alte.
  Assicuratevi che ci sia un'adeguata dispersione del calore quando installate l'unità in un mobile per componenti audio.
- Evite altas temperaturas
  Permite la suficiente dispersión del calor cuando está instalado en la consola.
- Vermijd hoge temperaturen.
  Zorg voor een degelijk hitteafvoer indien het apparaat op een rek wordt geplaatst.
- Undvik höga temperaturer.
  Se till att det finns möjlighet till god värmeavledning vid montering i ett rack.
- Evite temperaturas altas
  Conceda suficiente dispersão de calor quando o equipamento for instalado numa prateleira.

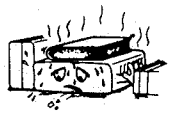


- Handle the power cord carefully.
  Hold the plug when unplugging the cord.
- Gehen Sie vorsichtig mit dem Netzkabel um.
  Halten Sie das Kabel am Stecker, wenn Sie den Stecker herausziehen.
- Manipuler le cordon d'alimentation avec precaution
  Tenir la prise lors du debranchement du cordon.
- Manneggiate il filo di alimentazione con cura
  Agite per la spina quando scollegate il cavo dalla presa.
- Maneje el cordon de energia con cuidado.
  Sostenga el enchufe cuando desconecte el cordon de energia.
- Hanteer het netsnoer voorzichtig
  Houd het snoer bij de stekker vast wanneer deze moet worden aan- of losgekoppeld.
- Hantera nätkabeln varsamt
  Håll i kabeln när den kopplas från eluttaget.
- Manuseie com cuidado o fio condutor de energia
  Segure a tomada ao desconectar o fio.

- Keep the set free from moisture, water, and dust.
- Halten Sie das Gerät von Feuchtigkeit, Wasser und Staub fern.
- Protéger l'appareil contre l'humidité, l'eau et la poussière.
- Tenete l'unità lontana dall'umidità, dall'acqua e dalla polvere.
- Mantenga el equipo libre de humedad, agua y polvo.
- Laat geen vochtigheid, water of stof in het apparaat binnendringen.
- Utsatt inte apparaten för fukt, vetten och damm.
- Mantenha o aparelho livre de qualquer umidade, água ou poeira.

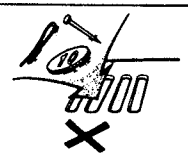


- Unplug the power cord when not using the set for long periods of time.
- Wenn das Gerät eine längere Zeit nicht verwendet werden soll, trennen Sie das Netzkabel vom Netzstecker.
- Débrancher le cordon d'alimentation lorsque l'appareil n'est pas utilisé pendant de longues périodes.
- Disinnestate il filo di alimentazione quando avete l'intenzione di non usare il filo di alimentazione per un lungo periodo di tempo.
- Desconecte el cordón de energia cuando no utilice el equipo por mucho tiempo.
- Neem altijd het netsnoer uit het stopkontakt wanneer het apparaat gedurende een lange periode niet wordt gebruikt.
- Koppla ur nätkabeln om apparaten inte kommer att användas i lång tid.
- Desligue o fio condutor de força quando o aparelho não tiver que ser usado por um longo período.



*(For sets with ventilation holes)

- Do not obstruct the ventilation holes.
- Die Belüftungsöffnungen dürfen nicht verdeckt werden.
- Ne pas obstruer les trous d'aération.
- Non coprite i fori di ventilazione.
- No obstruya los orificios de ventilación.
- De ventilatieopeningen mogen niet worden beblokkeerd.
- Täpp inte till ventilationsöppningarna.
- Não obstrua os orifícios de ventilação.



- Do not let foreign objects in the set.
- Keine fremden Gegenstände in das Gerät kommen lassen.
- Ne pas laisser des objets étrangers dans l'appareil.
- E' importante che nessun oggetto è inserito all'interno dell'unità.
- No deje objetos extraños dentro del equipo.
- Laat geen vreemde voorwerpen in dit apparaat vallen.
- Se till att främmande föremål inte tränger in i apparaten.
- Não deixe objetos estranhos no aparelho.

- Do not let insecticides, benzene, and thinner come in contact with the set.
- Lassen Sie das Gerät nicht mit Insektiziden, Benzin oder Verdünnungsmitteln in Berührung kommen.
- Ne pas mettre en contact des insecticides, du benzène et un diluant avec l'appareil.
- Assicuratevvi che l'unità non venga in contatto con insetticidi, benzolo o solventi.
- No permita el contacto de insecticidas, gasolina y diluyentes con el equipo.
- Laat geen insektenverdelgende middelen, benzine of verfverdunner met dit apparaat in kontakt komen.
- Se till att inte insektsmedel på spraybuk, bensen och thinner kommer i kontakt med apparatens hölje.
- Não permita que inseticidas, benzina e dissolvente entrem em contacto com o aparelho.

- Never disassemble or modify the set in any way.
- Versuchen Sie niemals das Gerät auseinander zu nehmen oder auf jegliche Art zu verändern.
- Ne jamais démonter ou modifier l'appareil d'une manière ou d'une autre.
- Non smontate mai, nè modificate l'unità in nessun modo.
- Nunca desarme o modifique el equipo de ninguna manera.
- Nooit dit apparaat demonteren of op andere wijze modifiëren.
- Ta inte isär apparaten och försök inte bygga om den.
- Nunca desmonte ou modifique o aparelho de alguma forma.

Thank you very much for purchasing the DENON component stereo cassette tape deck.
DENON proudly presents this advanced tape deck to audiophiles and music lovers as a further proof of DENON's non-compromising pursuit of the ultimate in sound quality. The high quality performance and easy operation are certain to provide you with many hours of outstanding listening pleasure.

Please check to make sure the following items are included with the main unit in the carton:

(1) Operating Instructions 1
(2) Connection Cords 2
(3) Mini-Plug Cable 1

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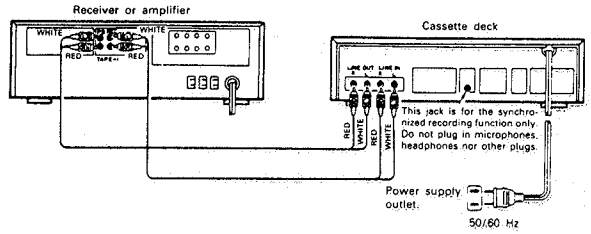
FEATURES

- Computer Controlled Mechanism
- Dual Power Supply
- Dolby HX-Pro Headroom Extension System
- Dolby B & C Noise Reduction Systems
- Manual Bias Adjustment Control
- Computing Tape Counter with 4-Digit Readout and Memory Stop
- Music Search System
- FL Peak Level Meters
- Auto Tape Selector
- 2-Speed Dubbing
- Relay Playback
- Synchronized Recording
- Optional Remote Controllable
- Twin Recording and Relay Recording

CONNECTION

- Leave your entire system (including this cassette deck) turned off until all connections between the deck and other components have been completed.



■ **Connecting the Deck to an Amplifier**
- Before connecting the deck to your amplifier, please review your amplifier's instruction manual.
- Use the white plugs for the left channel and red plugs for the right channel.

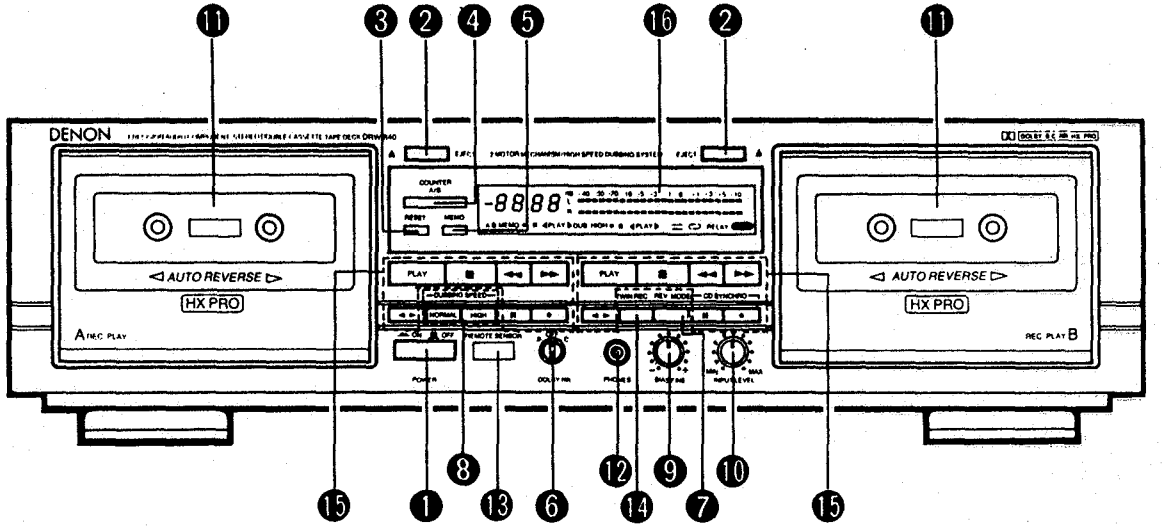
■ **Tape Dubbing**
- Many stereo amplifiers and receivers have tape dubbing circuitry so that tape duplication can be performed between two or more tape decks. Review your amplifier's instruction manual for a full explanation of this mode of operation.

■ **Connecting Headphones**
To listen through headphones, plug your headphones into the PHONES jack.

■ **Installation Precautions**
If the deck is placed near an amplifier, TV or tuner, noise (induced hum) or beat interference may result, especially during FM or AM reception. If this occurs, place the deck further away from other components or reorient its position.

FRONT PANEL
FRONTPLATTE
PANNEAU AVANT
PANNELLO ANTERIORE

PANEL FRONTAL
VOORPANEEL
FRAMSIDA
PAINEL FRONTAL



NAMES AND FUNCTIONS OF PARTS

❶ Power Switch (POWER)
Press once to turn the power to deck on, and once more to turn the power off.
The deck remains in a stand-by (non-operative) mode for approximately 2 seconds after it is switched on.

❷ Eject Button (EJECT ⏏)
Press this button to open the cassette compartment cover. When the tape is running, press the STOP (■) button first to stop tape transport, then press the Eject button.

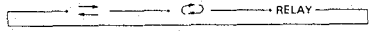
❸ Counter Reset Button (COUNTER RESET)
Press this button to reset the tape counter to zero.

❹ Counter Display Deck A/B Selector (COUNTER A/B)
Press this button to switch the tape counter display between deck A and deck B.

❺ Counter Memory Button (MEMO)
When this button is pressed during forward tape travel (▷), fast rewinding (◀◀) will stop automatically at the tape counter position "0000".
When this button is pressed during reverse tape travel (◁), fast forwarding (▶▶) will stop automatically at the tape counter position "0000". See page 12.

❻ Dolby NR Switch (DOLBY NR)
To record or playback tapes with Dolby B- or C-type noise reduction, set this switch to "B" or "C". Turn it off when not using the Dolby NR system.

❼ Reverse Mode Button (REV. MODE)
Select the type of tape transport. The reverse mode canbe set to ⇄ (one side), ⇆ (continuous playback), RELAY (relay playback).
If you further press the button during the display, the reverse mode will change in the following cycle.



❽ Dubbing Speed Buttons (DUBBING SPEED)
Pressing the NORMAL button starts regular speed dubbing from deck A to deck B. Press the HIGH button to perform dubbing at double speed. See page 10.

❾ Bias Fine Control (BIAS FINE)
(For Normal, CrO_2 and Metal tape)
Use this control to fine-adjust the bias. Standard bias is obtained at the center click-stop position. See page 9.

❿ Input Level Control (INPUT LEVEL)
This knob adjusts the recording input level. It affects the level in both channels. See page 8.

⓫ Cassette Compartment Cover
If the cover is not closed completely, the tape transport buttons will remain inoperative.

⓬ Headphone Jack (PHONES)
For private music enjoyment without disturbing others, or for monitoring a recording, a headphone set may be connected to this jack. Use a headphone with an impedance rating of 8 to 1200 ohms.

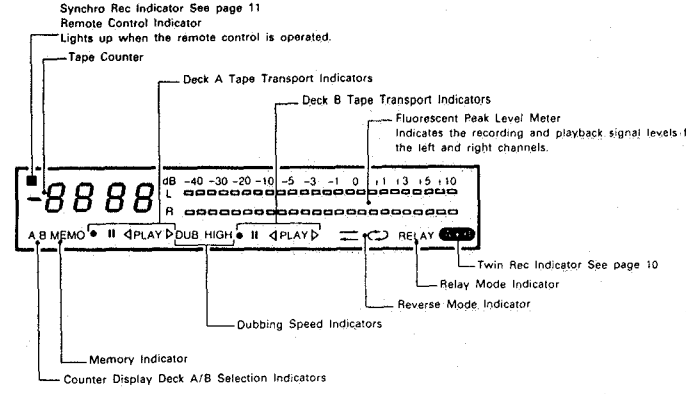
⓭ Remote Sensor (REMOTE SENSOR)
With the cassette deck the remote control unit is not included. Each of "PLAY, FF, REW, STOP, REC PAUSE and REC/REC MUTE" functions can be remote controlled with wireless handset of the receiver (DRA Series receivers). For details refer to the DRA Series operating instructions.
NOTE:
Note that only the A deck can be operated with remote control units which have no A/B selector button.
When operating the B deck with remote control units equipped with an A/B selector button, press A/B selector button before pressing the operation button.

⓮ Twin Recording Button (TWIN REC)
Pressing this button will set both deck A and B to the recording pause mode. See page 10.

⓯ Tape Transport Buttons

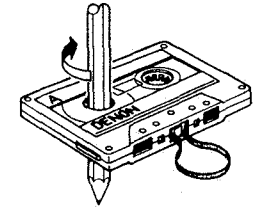
PLAY	Play Button	Press to playback tape.
■	Stop Button	Press to stop the tape in any mode.
◀◀	Fast Rewind Button	Press for fast rewind.
▶▶	Fast Forward Button	Press for fast forwarding.
● REC/REC MUTE	Rec/Rec Mute Button	Press the REC/REC MUTE (●) button and PLAY button simultaneously to start recording. If only the REC/REC MUTE (●) button is pressed, the deck enters the Recording Pause mode. Pressing this button in the Recording Pause mode will start Auto Rec Mute, and a 5 second silent space is recorded onto the tape. See page 9.
II REC PAUSE	Rec Pause Button	Press this button to enter the recording pause mode from the recording or recording mute mode. This button can only be used during recording. See page 9.
◀▶	Direction Button	Changes the tape transport direction from forward "▶" to reverse "◀", and vice versa.

⓰ Display
Indicators with an encircled number light up when the corresponding button is pressed.


Synchro Rec Indicator See page 11
Remote Control Indicator
Lights up when the remote control is operated.
Tape Counter
Deck A Tape Transport Indicators
Deck B Tape Transport Indicators
Fluorescent Peak Level Meter
Indicates the recording and playback signal levels for the left and right channels.
dB -40 -30 -20 -10 -5 -3 -1 0 +1 +3 +5 +10
L
R
A B MEMO ● II ◁PLAY▷ DUB HIGH ● II ◁PLAY▷ RELAY
Twin Rec Indicator See page 10
Relay Mode Indicator
Reverse Mode Indicator
Dubbing Speed Indicators
Memory Indicator
Counter Display Deck A/B Selection Indicators

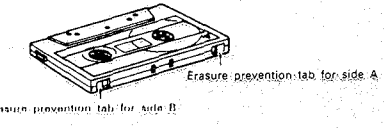
CASSETTE TAPES

■ **Handling Precautions**
- C-120 Cassettes
  C-120 cassette tapes are not recommended as they use a very thin tape base which may become tangled around the capstan or pinch roller.
- Tape Slack
  Before putting a tape into the deck, take up any slack with a pencil or your finger tip. This precaution prevents the tape from becoming entangled around the capstan or pinch roller.



■ **Storage Precautions**
- Do not store cassette tapes in a place where they will be subject to:
  - Extremely high temperature or excessive moisture
  - Excessive dust
  - Direct sunlight
  - Magnetic fields (near TV sets or speakers)
- To eliminate tape slack, store your cassettes in cassette cases with hub stops

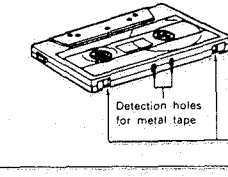
■ **Accidental Erasure Prevention**
- All cassettes have erasure prevention tabs for each side. To protect valuable recordings from accidental or inadvertent erasure, remove the tab for the appropriate side with a screwdriver or another tool.
- To record on a tape whose erasure prevention tabs have been removed, cover the tab holes with adhesive tape.



AUTOMATIC TAPE SELECTION

This Stereo Cassette Deck contains an automatic tape selector which automatically selects the optimum bias and equalization for the tape in use. This is accomplished by detection of the tape type detections holes in the cassette housing.

- If a tape without tape type detection holes is used, the deck will be set for normal tapes.



PLAYBACK

- The operations described below apply to deck A and deck B alike.
- Switch on your amplifier or receiver.
- Set the Tape Monitor switch on your amplifier or receiver to the TAPE position.
- The numbers in the illustration below depict the order in which operation steps are carried out.

① Press the POWER switch ❶ to the ON (⏻) position.
② Press the EJECT (⏏) button ❷ to open the cassette compartment cover ❶.
③ Load the cassette tape and close the cassette compartment cover ❶.
④ When listening to a tape that has been recorded with Dolby noise reduction, set the DOLBY NR switch ❽ to match the system used at the time of recording.

Dolby NR System	Switch Setting
B	
C	
OFF	

⑤ Press the Direction (◀▶) button ⓯ to select the direction of tape transport.

Transport Direction	Indicator
Forward	▷
Reverse	◁

⑥ Select the type of tape transport with the REVERSE MODE button ❼.

Mode	Indicator
To listen to one side only	⇀↽
To listen to repeat playback of both sides	⇄
To listen to continuous playback of both sides and both decks	RELAY

⑦ Press the PLAY button ⓰ to begin playback. The PLAY (▷) or (◁) indicator will light during playback.
⑧ Press the stop (■) button ⓲ to stop the playback.
- In the continuous playback mode (REVERSE MODE set to ⇄), playback of both tape sides will be repeated 5 times and then stop automatically.
- If different types of Dolby noise reduction are used for record and playback, playback response will be adversely effected.
- When power is turned off during tape transport, it may not be possible to remove the cassette by pressing the EJECT (⏏) button. In this case, turn on power again before you press the EJECT (⏏) button.

■ RELAY PLAY (continuous playback of the tapes in deck A and deck B)

- Load a cassette tape into deck A and B, and set the Dolby NR switch correctly.

① REVERSE MODE set to "RELAY" ❼.
② Press the PLAY button ⓰ of the deck you first wish to listen to. The PLAY indicator of the deck playing back the tape will light up.
③ To stop relay play, press the stop (■) button ⓲ of the deck currently playing the tape.
- Relay play will play decks A and B in succession for 5 cycles, upon which playback stops. When playback starts from deck B, when switching to deck A, the first deck A playback cycle will be counted as the second cycle. The completion of 5 cycles will always be at the opposite side of the tape in deck B.

■ MUSIC SEARCH SYSTEM

The music search system detects blank sections (lasting for at least 4 seconds) between selections in order to locate the beginning of selections in the forward or reverse direction.

1. To advance from the current selection to the beginning of the next selection (CUE):
   Press the PLAY button simultaneously with the Fast Forward (▶▶) button when the tape is travelling in the forward (▷) direction. Press the PLAY button simultaneously with the Rewind (◀◀) button when the tape is travelling in the reverse (◁) direction.
   The deck will skip the rest of the current selection and automatically resume play from the beginning of the next selection.
2. To repeat playback from the beginning of the current selection:
   Press the PLAY button simultaneously with the Rewind (◀◀) button when the tape is travelling in the forward (▷) direction. Press the PLAY button simultaneously with the Fast Forward (▶▶) button when the tape is travelling in the reverse (◁) direction.
   The deck will rewind the tape to the beginning of the current selection and automatically resume play from that point.
   This is very convenient for repeating playback of the current selection.

Notes on Music Search Operation:
The search functions operates by detecting comparatively long, blank sections approximately 4 to 5 seconds long, in between recorded selections. Therefore, the system may not operate normally in the following cases:
- Recordings with discontinuous speech or conversation.
- Recordings with long periods of pianissimo (softly played music).
- Recordings with long silences.
- Blank sections with a high level of noise.
- Blank sections shorter than 4 seconds.
- If noise-emitting appliances, such as electric razors, drills, refrigerators, etc., are operated nearby.
- REV close the beginning of the program or CUE close to the ending.

RECORDING

- The operations described below apply to deck A and deck B alike.
- Switch on your amplifier or receiver and the source component.
- Set the Tape Monitor switch on your amplifier or receiver to the SOURCE position.

① Press the POWER switch ❶ to the ON (⏻) position.
② Load the cassette tape ❷, ❸.
(Check that the erasure prevention tabs of the cassette housing have *not been broken off.*)
③ Set the DOLBY NR switch ⓬ to the appropriate position.

Recording with Dolby NR type B	
Recording with Dolby NR type C	
Recording without Dolby NR	

④ Press the Direction (◀▶) button ⓯ to select the direction of tape transport.
⑤ Select the type of tape transport with the REVERSE MODE button ❼.

Mode	Indicator
To record on only one side	⇀↽
To continuously record on both sides	⇄ or RELAY

⑥ Press the REC/REC MUTE (●) button ⓮ to set the recording pause mode. The ●II indicator will light up.
⑦ Adjust the recording level with the INPUT LEVEL control ⓫ while watching the Peak Level Meter.
⑧ Press the PLAY button ⓰ to start the recording.
The PLAY (◁ or ▷) and the ● indicator will light during recording.
⑨ To stop recording, press the stop (■) button ⓲.
⑩ To pause the recording, press the REC PAUSE (II) button ⓭. Press the PLAY button ⓰ to resume recording.

Caution:
- Be careful not to erase important recordings by mistake. Inadvertent start of recording will happen in the following cases:
  1. If the PLAY button is pressed while the ● indicator lights, recording starts.
  2. If the PLAY and REC/REC MUTE (●) button are pressed at the same time, recording starts.

  The best way to avoid accidental erasure is to break off the two erasure prevention tabs on the cassette housing.

■ PROPER RECORDING LEVEL

A too high recording level can saturate the tape and cause distortion. On the other hand, if the recording level is set too low, soft passages will be marked by residual noise. A proper recording level is the single most important factor for making well balanced recordings.

Guideline for maximum recording level

TYPE I (Normal)	0 dB level on peaks
TYPE II (CrO_2)	+1 dB level on peaks
TYPE IV (Metal)	+3 dB level on peaks

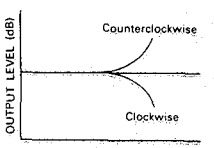
Note: The optimum recording level differs depending on the program source and the type of tape used.

■ RECORDING BIAS ADJUSTMENT

For best recording results, monitoring during recording and comparing different recordings using your own judgement are essential.
The DENON cassette deck is equipped with a BIAS FINE control to assist you in setting the proper bias for different types and brands of tape. At the center stop-click position, the deck is set to the reference bias level for Normal, CrO_2 and Metal tape. If the resulting recording in this position has too much or too little high frequency content, adjusting the BIAS FINE control can be useful to achieve better results.

BIAS FINE

If the high frequencies (treble sounds) are to be boosted, turn the BIAS FINE control counter-clockwise to decrease the bias current. Turn the control clockwise to increase bias current.
By the use of this control, you can record tapes with a frequency response that will perfectly match your listening taste.



■ REC/REC MUTE AND REC PAUSE Button

1. To record a 5-second blank section during recording:
   Press the REC/REC MUTE (●) button. A 5-second blank will be recorded and the deck will enter the recording standby mode.
2. To record a 5-second blank section during the recording standby mode:
   Press the REC/REC MUTE (●) button from the recording standby mode. A 5 second blank will be recorded and the deck will enter the recording standby mode again.
3. To cancel recording of blank space:
   Press the REC PAUSE (II) button. Blank space recording will be cancelled and the deck enters the recording standby mode.
4. To extend the blank section with another 5 seconds or more:
   Simply press the REC/REC MUTE (●) button and the blank section will be increased with another 5 seconds.

■ **TWIN RECORDING (simultaneous recording on deck A and deck B)**
This is a convenient feature for recording the same program source onto two tapes at the same time.

- Load cassette tapes into both deck A and B. Set the Dolby NR switch ❶ and the REVERSE MODE button ❼.

① Press the TWIN REC button ❽. The (A+B) indicator will light up and both decks will enter the recording pause mode.
② Adjust the INPUT LEVEL control ❾ for the best recording input levels while watching the Peak Level Meter.
③ Press the PLAY button ⓫ of deck B to start twin recording.
④ To stop twin recording, press the STOP (■) button ⓬ of each deck.

- By pressing the deck B REC PAUSE (II) button or the REC/REC MUTE (●) button, the recording pause or recording mute mode on both decks can be set automatically.
  The deck A (II) and (●) buttons cannot be used.
- To set the twin recording mute mode from the twin recording pause mode, press the REC/REC MUTE button (●) on deck B for at least 0.5 seconds.
- The relay mode cannot be set with the REVERSE MODE button when in the twin recording mode.

■ **RELAY RECORDING (continues recording from deck A to deck B)**
To record a long program, start recording on deck A, and when both sides of the tape in deck A have been recorded, the relay recording feature continues to record on the tape in deck B.

- Load cassette tapes into decks A and B, and set the Dolby NR switch.

① REVERSE MODE set to "RELAY" ❼.
The RELAY indicator will light.

Recording Order	
Deck A	Deck B
Side facing you → Opposite side	→ Side facing you → Opposite side

② Press the REC/REC MUTE (●) button ⓭ of deck A to set the recording pause mode.
③ Adjust the INPUT LEVEL control ❾ for the best recording input level while watching the Peak Level Meter.
④ Press the PLAY button ⓫ of deck A to start relay recording.
⑤ To stop relay recording, press the STOP (■) button ⓬ of the deck that is recording.

DUBBING (from deck A to deck B)

- Switch on the amplifier or receiver.
- Set the Tape Monitor switch on your amplifier or receiver to the TAPE position.

① Press the POWER switch ❶ to the ON (⏻) position.
② Load the cassette tape to be played in deck A and the one to be recorded in deck B ❷, ⓫.
③ Select the type of tape transport with the REVERSE MODE button ❼.

Reverse mode	Operation
⇒ ⇐	Dubbing is performed only for one side. The decks stop when either deck A or B reaches the end of the tape.
⟲	The tape direction is reversed on each deck when they reach the end of the tape. (This is convenient for dubbing to a tape with a different length.)
RELAY	During dubbing of the side facing you, the deck that first reaches the end of the tape will stand by until the other deck reaches the end of the tape, then both decks will reverse the tape direction together. (Depending on the manufacturer, the length of tapes having the same recording time may differ somewhat. Setting this mode permits the arrangement of the beginning portion of the opposite side of the tape.)

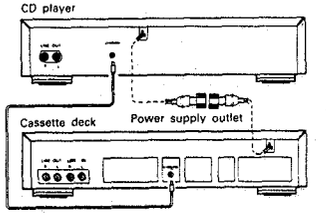
④ To begin normal speed dubbing, press the DUBBING SPEED NORMAL button ❺. The DUB indicator will light at this time.
To high speed dubbing, press the DUBBING SPEED HIGH button ❹. The HIGH indicator will light at this time.
⑤ To stop dubbing, press the stop (■) button ⓬ of deck A or deck B.

- When deck A is in the playback mode and deck B is in the stop condition, setting deck B to the recording pause mode will engage the normal speed dubbing pause mode. Dubbing is then started by pressing the PLAY button.
- When dubbing, the recording level and the Dolby NR coding will be the same as those of the playback tape, regardless of the positions of the INPUT LEVEL control and the DOLBY NR switch.
- When listening to the playback sound during normal speed dubbing, set the DOLBY NR switch to match the Dolby NR system with which the playback tape was recorded. This will assure correct sound reproduction, but does not affect the recording.
- The playback sound cannot be heard during high speed dubbing.
- Operation using the REC/REC MUTE (●) and REC PAUSE (II) buttons of deck B is permitted during normal speed dubbing.
- Buttons other than the stop (■) button cannot be used during high speed dubbing.

SYNCHRONIZED RECORDING FUNCTION

- Convenient synchronized recording can be performed when used in combination with a DENON CD player equipped for the synchronized recording function.
- SYNCHRO Jack Connection Connect the SYNCHRO Jack with a DENON CD player which is equipped with a SYNCHRO jack, then make a synchronized recording. Use the connection cord supplied with this cassette deck
- Switch on your amplifier or receiver and the CD player.
- Set the tape Monitor switch on your amplifier or receiver to the source position.

① Load the tape onto which you want to record into Deck B, the disc you want to record into the CD player.
② Following the recording instructions on page 9, set the Dolby NR mode, the direction, the reverse mode and the input level.
③ Set the CD player to the stop or pause mode.
④ Press the REC/REC MUTE (●) button and REC PAUSE (II) button simultaneously. The cassette deck and CD player are automatically set to the synchronized recording mode. The "■" indicator lights on the cassette deck and the synchronized recording mode is indicated on the CD player.
(For details, refer to the CD player's operating instructions.)
⑤ To stop synchronized recording, press the stop button on Deck B. The synchronized recording mode is cancelled for both the cassette deck and CD player.
⑥ To stop synchronized recording temporarily, press the stop button on the CD player. A 5-second blank space is created on the tape, after which the recording pause mode is set. The "■" indicator flashes. To resume synchronized recording, press the PLAY button on the CD player.



Note:

- If synchronized recording is started when the CD player is in a mode other than the stop or pause mode or when no disc is set, the "■" indicator on the cassette deck flashes and the recording pause mode is set until synchronized recording is possible on the CD player.
- In the synchronized recording mode, only the STOP button on Deck B and the STOP, FF and REW buttons on Deck A will function.

Caution:

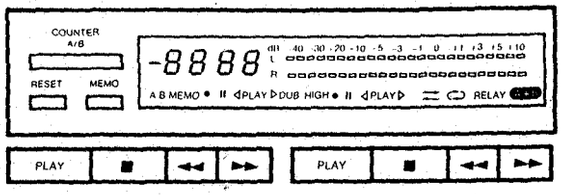
- Do not set the cassette deck to the synchronized recording mode when the CD player is in the play mode. Also, do not turn off the power of the cassette deck or the CD player during synchronized recording. Doing so can result in malfunction.
- During the editing operation, when using the editing functions on the CD player, be sure to select a tape with a sufficiently long recording time.
  For the CD player's editing functions, refer to the CD player's operating instructions.

■ **TWIN SYNCHRONIZED RECORDING**
This is a convenient feature for synchronized recording the same program source onto two tapes at the same time.

- Load cassette tapes into both deck A and deck B. Set the Dolby NR, the direction, the reverse mode and the input level.

① Set the CD player to the stop or pause mode.
② Press the TWIN REC button. The (A+B) indicator will light up and both decks will enter the recording pause mode.
③ Press the REC/REC MUTE (●) button ⓭ and REC PAUSE (II) button ⓮ of deck B simultaneously. The cassette deck and CD player are automatically set to the twin synchronized recording mode.
The "■" indicator lights on the cassette deck and the synchronized recording mode is indicated on the CD player
④ Stop synchronized recording, press the STOP button on both deck A and B.
⑤ To stop twin synchronized recording temporarily, press the stop button on the CD player. A 5-seconds blank space is created on the tape, after which the recording pause mode is set. The "■" indicator flashes. To resume twin synchronized recording, press the PLAY button on the CD player.

TAPE COUNTER AND MEMORY STOP



1) Operation of the Tape Counter

(1) Press the RESET button to reset the counter to "0000".

(2) By using the PLAY, FF, or REW functions, the reading of the counter will change to indicate index position.

- During recording and playback operations, the counter is useful for noting the location of existing programs or positions where recording is to be started.
- The reading of this counter does not correspond with that of any other deck.

(3) Deck A and Deck B have the memory of their own counter. Operate COUNTER A/B to change Deck A or B to display its counter.

2) MEMORY STOP Operation

(1) During recording or playback, the Memory Stop feature can be used to locate a particular point on the tape. Press the COUNTER MEMO button at the desired point.

(2) The MEMO indicator lights.

(3) When the Rewind (◀◀) button is pressed during forward tape travel (▷), or the Fast Forward (▶▶) button is pressed during reverse tape travel (◁), the tape is rapidly rewound (or advanced) until the counter indication of "0000" is reached.

- The Memory Stop feature will rewind or forward the tape to within –5 counts in the forward (▷) direction (from "0000" to "–0005") and to within +5 counts in the reverse (◁) direction (from "0000" to "0005"). After this, several seconds are required for corrective operations.
- The Memory Stop function operates independently in both directions for deck A and deck B. The MEMO indicator will switch over with the use of the COUNTER A/B button.

Caution:
If the memory stop operation is performed after repeated fast-forwarding or rewinding, the tape may not stop at the proper position.

DOLBY B AND C NOISE REDUCTION SYSTEM

■ The Dolby noise reduction system substantially reduces the tape background noise (hiss) inherent in the cassette medium. Dolby B NR is most widely in use. However Dolby C NR is a much more recent development and represents significant improvements over Dolby B NR.

■ Tape background noise consists primarily of high frequency information, which is particularly annoying during soft passages. The Dolby NR system increases the level of low volume mid- and high-frequency signals during recording and reduces the level of these signals by an identical amount during playback. As a result, the playback signal is identical to the original source, but the level of background noise generated by the tape is greatly reduced.

■ The operating principle of Dolby C NR is similar to that of Dolby B NR except for the encoding/decoding response curves. The noise reduction effect obtained with Dolby C NR is up to 20 dB, compared to 10 dB with Dolby B NR. In addition, Dolby C NR uses an anti-saturation network and spectral skewing circuitry for a significant improvement in the dynamic range of the mid- to high-frequencies.

DOLBY HX-PRO HEADROOM EXTENSION SYSTEM

This deck is equipped with the Dolby HX-PRO headroom extension system. Since the system functions automatically during recording, no switching operation or adjustment is required. The system is effective with any type of Normal, CrO_2 and Metal tape.
The Dolby HX-PRO headroom extension system functions during recording to raise the saturation level in the treble range. Therefore, most of the treble range components distorted or lost during recording on conventional cassette decks are more faithfully recorded on the new DENON cassette deck.

Features of the Dolby HX-PRO Headroom Extension System

(1) Performance of Normal and CrO_2 tapes can be improved to very close of that offered by Metal tape.

(2) The dynamics in the treble range are improved significantly.

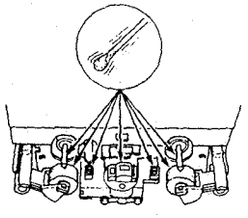
(3) Since no decoding is necessary during playback, the improved sound can be enjoyed on any type of tape deck, including portable players and car audio systems.

(4) The system functions whether the Dolby B/C NR system is engaged or not.

MAINTENANCE

■ **Head Cleaning**
After long usage, tape coating or dust may adhere to the heads, causing deterioration of sound. Therefore, the parts depicted in the illustration should be cleaned regularly. Use a cotton swab moistened with a tape head cleaning solution (such as alcohol).

Note:
1. Some cleaning cassettes on the market have strong abrasive effects and may scratch the heads. Always use cotton swabs instead of cleaning cassettes.
2. Since the use of metal tape is apt to collect more dust on the heads, the heads should be cleaned more often to enjoy the best possible sound.



■ **Cleaning the Pinch Rollers and Capstans**
If the pinch rollers or capstans accumulate dust, tape transport may become unstable, as a result from slippage, during recording or playback. The tape can also be damaged if it gets entangled in the capstan.
Clean these parts with a cotton swab or a soft cloth moistened with a tape head cleaning solution (such as alcohol).

■ **Demagnetizing the Heads**
The heads will become magnetized after long usage or if strongly magnetized objects are brought near them. The result is a generation of noise, loss of the high frequency range, and in extreme cases erasure of treble components on pre-recorded tapes in combination with added noise.
Thus, the heads should be demagnetized at regular intervals. (Head demagnetizers are separately available from your dealer.)

■ **How to Demagnetize the Tape Heads**
1. Turn off the power.
2. Turn on the demagnetizer while it is at least 30 cm away from the heads. Bring the demagnetizer near the heads and slowly move it in small circles four or five times in front of each head, making sure you do not touch them.
3. Slowly move the demagnetizer away and turn it off when it is at least 30 cm away from the heads.

TROUBLESHOOTING

Check the following before you draw the conclusion that your Stereo Cassette Deck is malfunctioning.
1. Are all the connections correct?
2. Are all system components being operated correctly in accordance with the operating instructions?
3. Are the speakers and amplifier/receiver functioning correctly?

If the tape deck still does not function properly, check the symptom against the list below. If the symptom does not correspond to the check list, please contact your DENON dealer.

Problem	Cause	Remedy
Tape does not run	• Power cord is disconnected. • Tape is loose. • Cassette is not loaded properly. • Defective cassette.	• Check power cord. • Tighten tape with a pencil, etc. • Load cassette properly. • Replace cassette.
Tape is not recorded when REC/REC MUTE (●) button is pressed.	• No cassette is loaded. • Erase prevention tabs are broken off.	• Load cassette. • Cover holes with adhesive tape.
Sound is warbled and distorted.	• Heads, capstan or pinch roller are dirty. • Tape is wound too tight. • Recording input level is too high. • Tape is worn out and has "drop-outs".	• Clean them. • Fast forward or rewind to loosen tape winding. • Adjust recording input level. • Replace tape.
Excessive noise	• Tape is worn. • Heads, capstan or pinch roller are dirty. • Heads are magnetized. • Recording input level is too low.	• Replace them. • Clean them. • Demagnetize heads. • Adjust recording input level.
High frequency range (treble) is emphasized.	• Dolby NR switch is set improperly.	• Set Dolby NR Switch properly.
High frequency range (treble) is lost.	• Heads are dirty. • Tape is worn.	• Clean them. • Replace tape.
The cassette tape cannot be removed.	• If the POWER switch is turned off either during recording or playback and the unit is stopped, there may be cases when the cassette cannot be removed, even if the EJECT (⏏) button is pressed.	• Turn the POWER switch ON (⏻) again, and then press the STOP (■) button. • Now, press the EJECT (⏏) button to remove the cassette tape.

SPECIFICATIONS

Type	Vertical tape loading; 4-track 2-channel stereo double cassette deck
Heads	Recording/playback head × 2 Erase head (Double-gap ferrite) × 2
Motors	Capstan (DC servo motor) × 2 Real (DC motor) × 2
Tape Speed	4.8 cm/sec.
Fast Forward, Rewind Time	Approx. 110 sec. with a C-60 cassette
Recording Bias	Approx 105 kHz
Overall S/N Ratio (at 3% THD level)	Dolby C NR on: more than 74 dB (CCIR/ARM)
Overall Frequency Response	20 ~ 18,000 Hz ±3 dB (at –20 dB, Metal tape)
Channel Separation	More than 40 dB (at 1 kHz)
Wow & Flutter	0.06% WRMS, ±0.14% w. peak
Input	
LINE	80 mV (–20 dBm) input level at maximum Input impedance: 50 kohm unbalanced
Output	
LINE	775 mV (0 dB) output level at maximum (with 47 kohm load, recorded level of 200 pwb/mm)
PHONES	1.2 mW output level at maximum (optimum load impedance 8 ohm ~ 1.2 kohm)
Power Supply	50 Hz/60 Hz, voltage is shown on rating label
Power Consumption	27 W
Dimensions	434 (W) × 124 (H) × 275 (D) mm (17-3/32" × 4-57/64" × 10-53/64")
Weight	4.4 kg (9 lbs 11 oz)

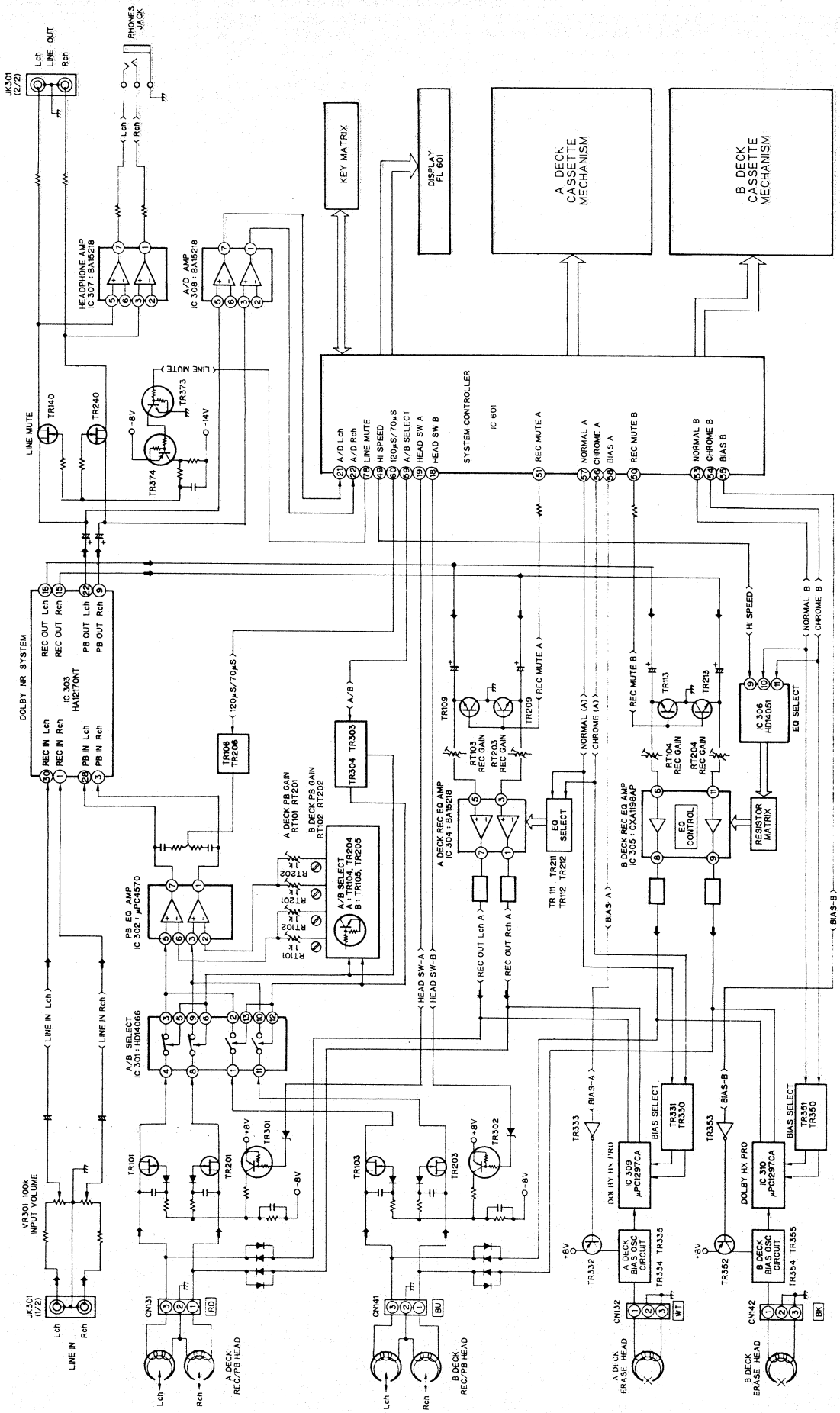
* Above specifications and design are subject to change without prior notice.

Best results will be obtained with use of DENON DX and HD Series cassette tapes.

Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen.

"DOLBY", the double-D symbol ⧈ and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

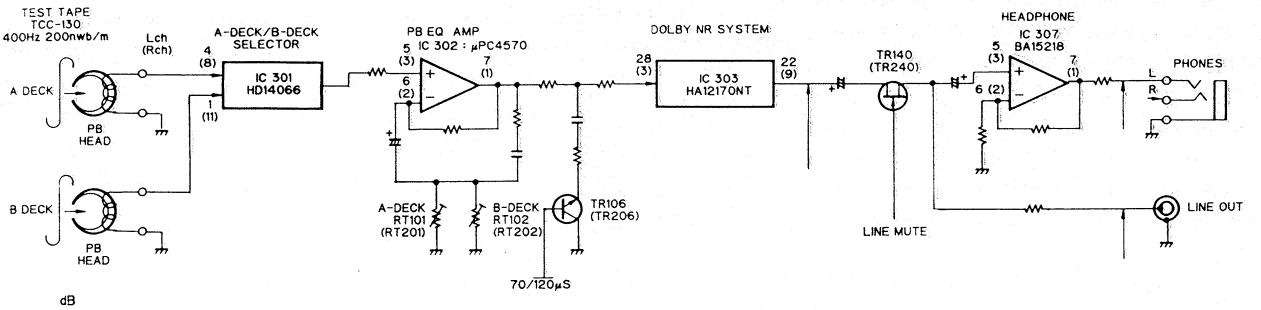
BLOCK DIAGRAM

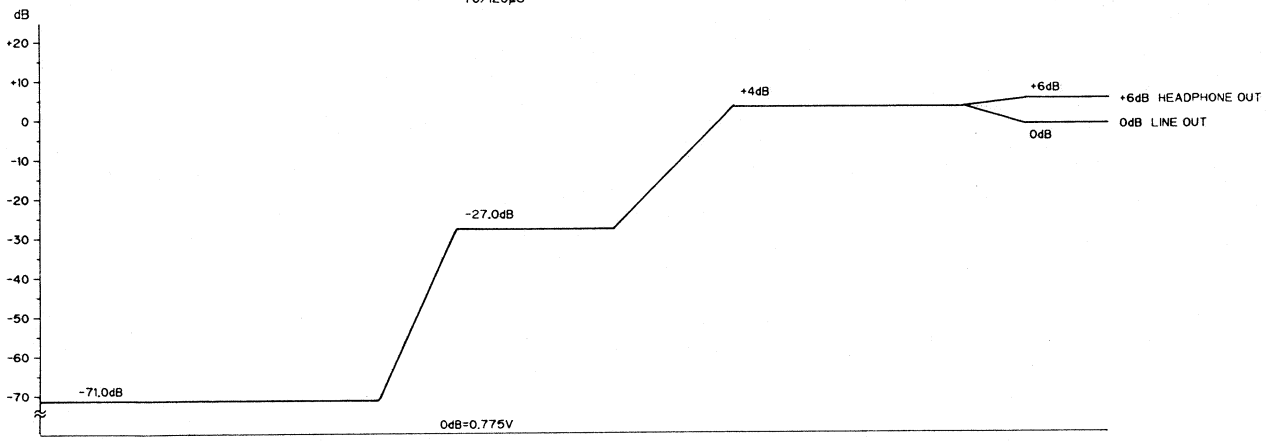


LEVEL DIAGRAM

PLAYBACK SYSTEM

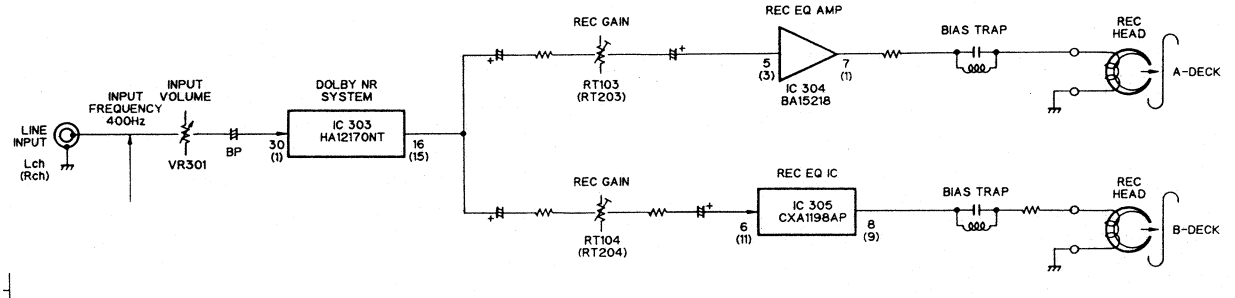
TCC-130 DOLBY B-TYPE
400 Hz 200 nwb/m

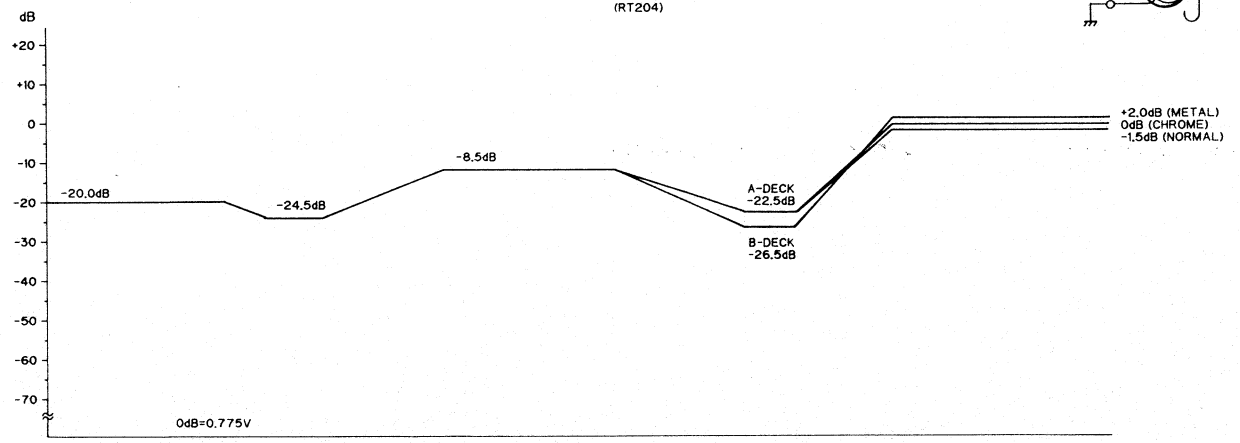




RECORDING SYSTEM

INPUT FREQUENCY
400 Hz





DISASSEMBLY INSTRUCTIONS

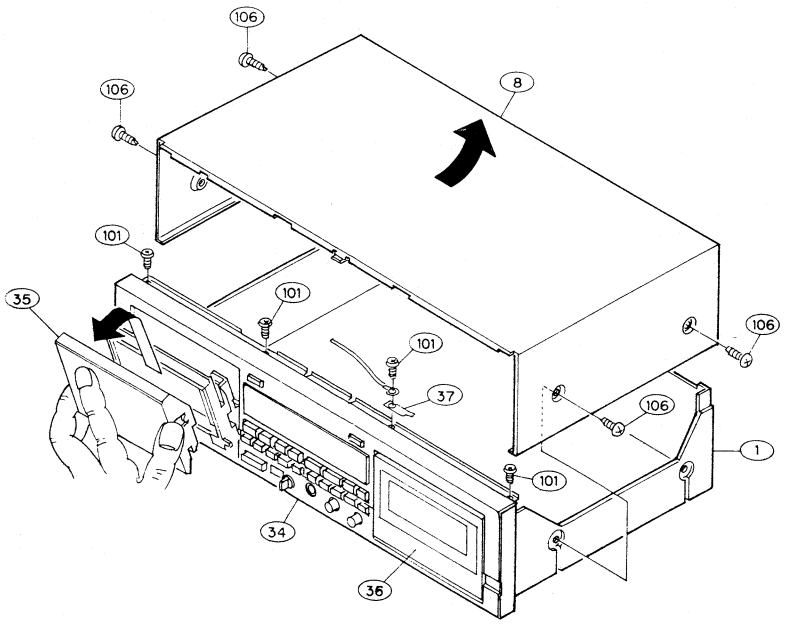
1. How to Remove the Front Panel

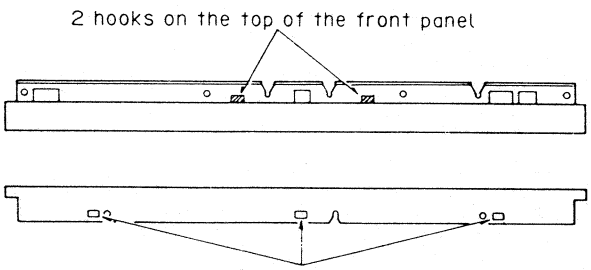
(1) Remove the four screws (4 × 10 CTTS-P) (106) in the side of the top cover (8). Move the top cover to the rear and rise it to remove it.

(2) Press the eject knob (25), open the cassette window (35) (36) and remove the cassette window as shown in the figure.

Note: Handle the cassette window with care because it can be scratched easily.

(3) Remove the four screws (3 × 10 CBTS-P) (101) on top of the front panel (34), the two hooks on the top, the three hooks on the bottom and pull the unit forward to detach it.





2 hooks on the top of the front panel

3 hooks on the bottom of front panel

2. How to Remove the Front Escutcheon Ass'y

(1) Remove the top cover (8) and front panel (34). (Refer to Step 1.)

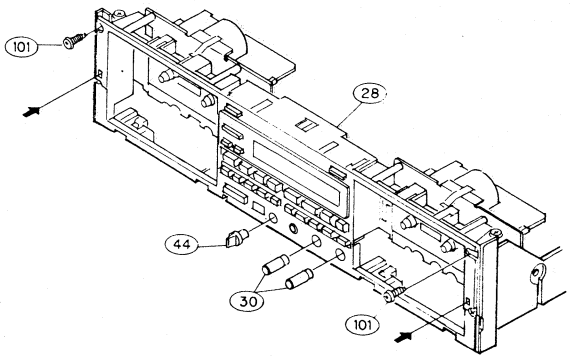
(2) Remove the two retaining screws 3 × 10 CBTS-(P)-B (101) holding the Front Escutcheon at the front.

(3) Disconnect all lead connectors.

C. Mechanism (A)	Erase Head wire → CN132	Audio circuit board
	P.B. REC Head wire →CN131	
C. Mechanism (B)	P.B. REC Head wire →CN141	
	Erase Head wire →CN142	
Meter circuit board	CN121 (35P) →CN121	

(4) Remove Volume Knob (B) (30), (44).

(5) Remove the Hooks at the left and right of the front face of the Front Esc. Ass'y, and the two hooks on the bottom, Front Ass'y can be removed towards the front.



Hooks at left and right of front Ass'y

3. How to Remove the Mechanisms

Remove the four Mechanism retaining screws 3×10 CBTS(P)-B (101) and take out C Mechanism (A) (26) and C. Mechanism (B) (27).

4. How to Remove the Meter Circuit Board

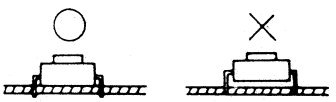
(1) Disconnect lead connectors.

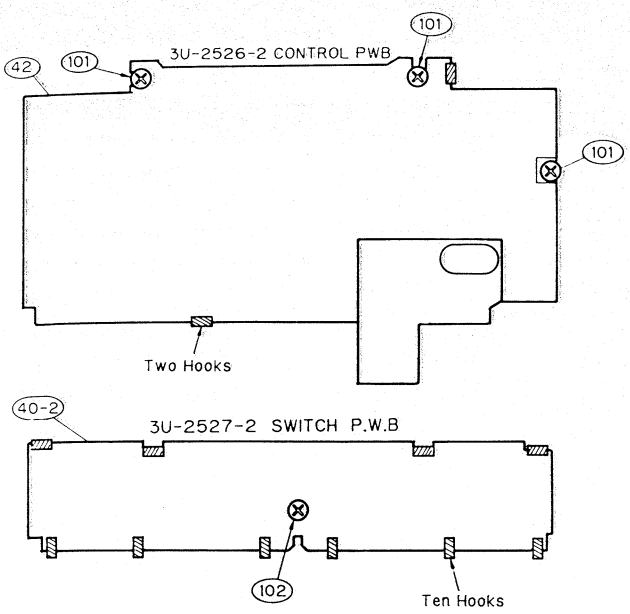
C. Mechanism (A) → CN501 Meter circuit

C. Mechanism (B) → CN551 board

(2) Remove the 3 Meter Circuit Board retaining screws 3×8 CBTS(P)-B (102) and take out the Meter Circuit Board.

Note: When replacing the tact switch, check to make sure that it is not floating above the circuit board. If it is floating, the switch will be in the on condition when the set is assembled.

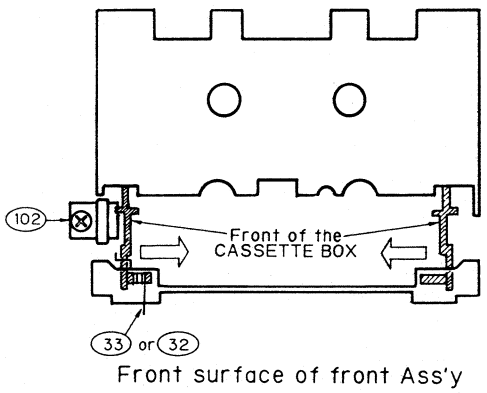




5. How to Remove the Cassette Door

(1) Remove the MINI DAMPER retaining screw 3×8 CBTS(P)-B (102) and take out the MINI DAMPER (29).

(2) Hold the legs of the CASSETTE BOX folded inwards and pull up to remove the CASSETTE BOX (31) and BOX SPRING (32) (33).



Front surface of front Ass'y

6. How to Remove the Audio Circuit Board

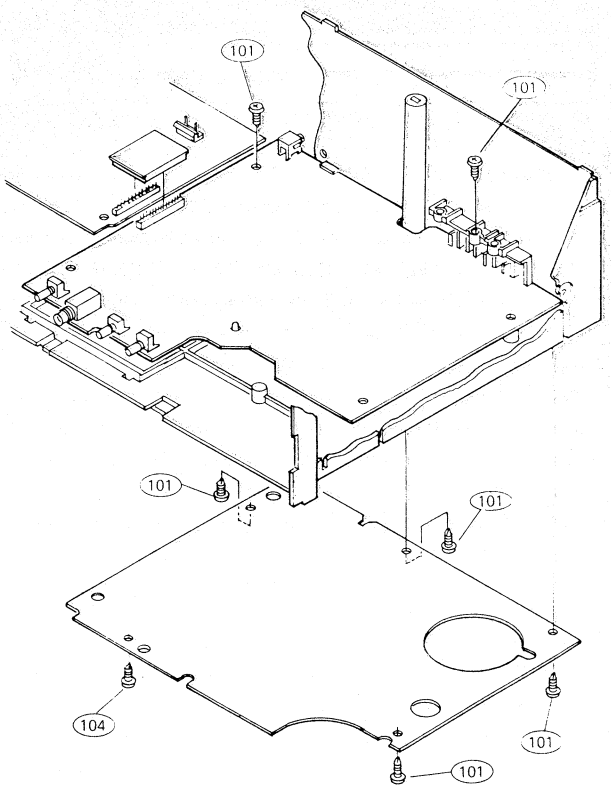
(1) Remove the top cover (8) and the front panel (34). (Refer to section 1.)

(2) Remove the front esc. ass'y. (Refer to section 2.)

(3) Remove the connectors from the audio circuit board and power supply circuit board.

Side of the Power supply circuit board	CN191 → (15P) → CN191 TBG CONNECTOR	Side of the audio circuit board

(4) Remove the screw (3×10 CBTS · P tight) (101) (3×8 CBTS · S tight) (104) that is holding down the 4P pin jack (13) and circuit board (40-1). By removing the two catches (left and right) of the chassis holding down the circuit board in the directions of the arrows shown below, the audio circuit board can be pulled forward.



Note:

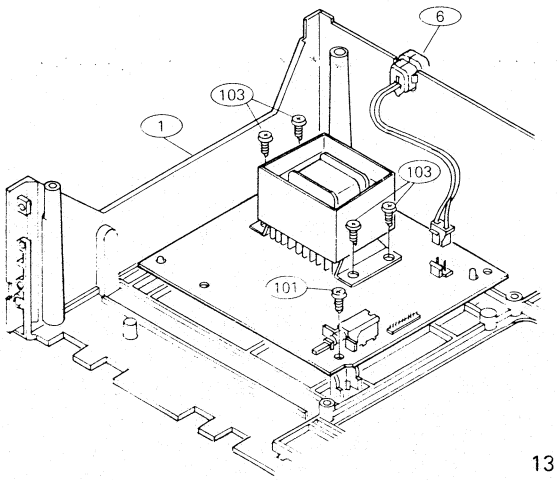
- Almost all of the service repairs to the audio circuit board can be performed by removing the bottom cover on the rear side of the chassis.
  Only when it is unavoidable should you refer to the removal method mentioned above.
- When reassembling, follow the procedures in the reverse order. However, if each of the various parts are not assembled properly in their respective position, the set cannot be assembled in some cases. Therefore, check the work of each step carefully when assembling.

7. How to Remove the Power Supply Circuit Board

(1) Remove the top cover (8) and the front panel (34). (Refer to section 1.)

(2) Remove the bushing (6) that is fixing the power supply cord from the chassis (1).

(3) When the four screws (4 × 10 CBTS · P tight) (103) (3 × 10 CBTS · P tight) (101) that are holding the power transformer and circuit board are removed, the power supply circuit board can be removed by raising it.



ADJUSTING AND CHECKING THE MECHANISM SECTION

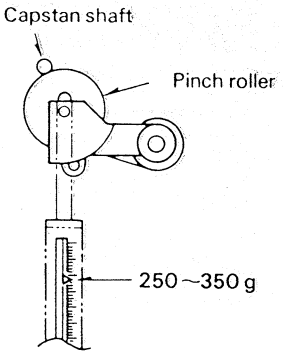
1. Replacement of the pinch roller

Before replacing the pinch roller, clean the tape contact surface of the pinch roller and the tape contact surface of the capstan shaft. After replacement, run a C-90 tape without a pad and check for the presence of tape curl at the tape guide portion of the head.

2. Checking the pinch roller pressure

Set to the playback condition and hook a bar-type spring scale to the bracket above the center line of the pinch roller. Pull the pinch roller away from the capstan shaft, then allow the pinch roller to come into contact with the capstan shaft and check that the reading of the bar-type spring scale is between 250 g and 350 g when the pinch roller starts to rotate.

Replace the pinch roller when the value falls outside of the specified range.



3. Replacement of the recording/playback head assembly

Perform this procedure after removing the front panel.

3-1 Removal of the head assembly

(1) Remove the 2 head base fastening screws.

(2) Remove the head base from the reed holder and the wire connector.

3-2 Mounting the recording/playback head assembly Perform by following the steps of Section 3-1 Removal of the head assembly in reverse.

4. Checking the winding torque

Load a cassette type torque meter (Sony TW2111A at the FWD side, and Sony TW2121A at the REW side) and check that the reading of the torque meter during playback is 30 to 70 g-cm at the center value.

When outside of the specified value range, check the voltage of the reel motor (approx. 4V). When the voltage value is low, the torque is weak, and when high, the torque is strong.

5. Checking the back tension torque at the time of recording and playback

Load a cassette type torque meter (Sony W2111A at the FWD side, and Sony TWG121A at the REW side) and check that the reading of the torque meter during playback is 2 to 6 g-cm and that there is no unevenness.

6. Checking the FF and REW torque

Load a cassette type torque meter (Sony TW2231) and check that the value indicated by the torque meter for winding and rewinding is between 90 and 180 g-cm.

7. Checking the FF and REW time

Load a DENON HD-X/60 cassette tape, and check that the time for FF and REW is between 80 and 110 seconds. When outside of the specified range, check Steps 5 and 6.

8. Checking the erroneous erasure prevention, and the metal and chrome switch operations

Check that the detection lever is operating the switch properly depending upon the presence or absence of a hole.

ADJUSTING THE ELECTRICAL SECTIONS

• Measuring instruments necessary for adjustments

(1) Audio signal generator
(2) Variable resistance attenuator
(3) Electronic voltmeter
(4) Oscilloscope
(5) Frequency counter
(6) Adjustment screwdriver
(7) Trap coil adjustment square stick
(8) Test tapes (SONY TY-224)
(A-BEX TCC-130, TCC-153, TCC-262B/162B)
(DENON HD7E/60)
(9) Transport Check cassette tape (A-BEX TCC-902)
(10) Lead line with alligator clip

• Caution on adjusting

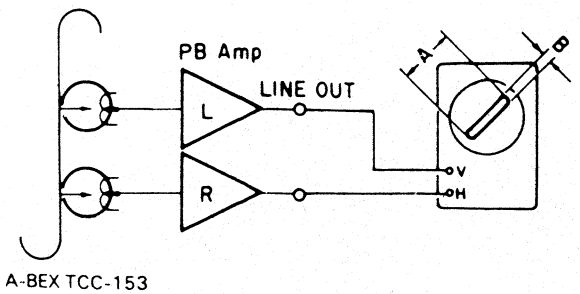
(1) Before adjusting, clean the head surface, capstan and the pinch roller with a gauze or a cotton swab moistened with alcohol.
(2) Demagnetize the R/P HEAD and the E. HEAD with a head eraser.
(3) Completely demagnetize the adjustment screwdriver.
(4) Unless instructed otherwise, set the various controls as follows:
○ INPUT volume ..... maximum
○ DOLBY NR switch ..... OFF
○ BIAS volume ..... Center click position

1. Tape Transport Check

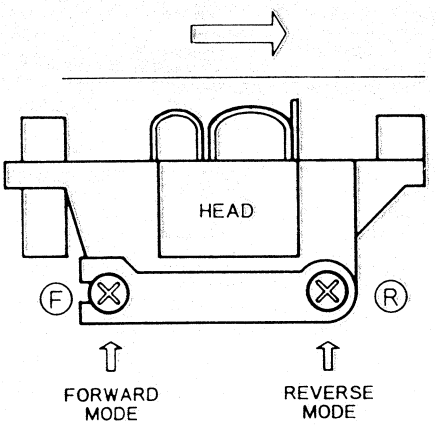
Load the transport check cassette. In the operational mode, illuminate the fixing guides of the R/P HEAD with a lamp and check to make sure the tape edge does not come in contact with the tape guide section.
The tape transport is the most important element in determining the performance of a cassette deck.
Avoid moving the various adjustment screws, nuts, etc., as much as possible. Refer to the pages on "Adjusting and Checking the Mechanism Section" when replacing or adjusting the R/P HEAD.

2. Adjusting the Azimuth

(1) After completing the tape transport check, load the test tape (A-BEX TCC-153).
(2) Playback the test tape; adjust the azimuth screw so that section A of the resurge wave form is maximum and section B is minimum.

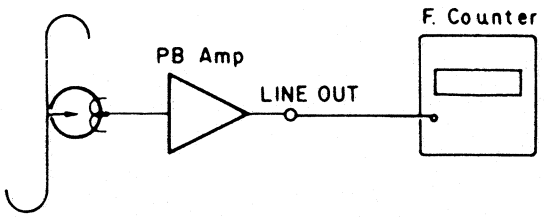


A-BEX TCC-153



3. Checking and Adjusting the Tape Speed

(1) Connect the frequency counter to the LINE OUT terminal and load test tape (SONY TY-224).
(2) Load cassette tapes on both cassette decks A and B. Next, on the deck (A or B) whose speed is to be adjusted, while holding down the PLAY, FF and REW buttons together, press the POWER switch. After the power has been on for about two seconds, the Remote Control Indicator "■" in Display will light up and the cassette deck will begin to play in speed adjustment mode.
(Speed adjustments can not be made, unless this mode is first selected.)
(3) For normal speed adjustments, use Meter Unit RT502 for Cassette Deck A and RT552 for Cassette Deck B.
When making high speed adjustments, first press the DUBBING SPEED "HIGH" Button and use RT501 for Cassette Deck A and RT551 for Cassette Deck B.
(Note that speed adjustment mode is cancelled when the tape is ejected.)



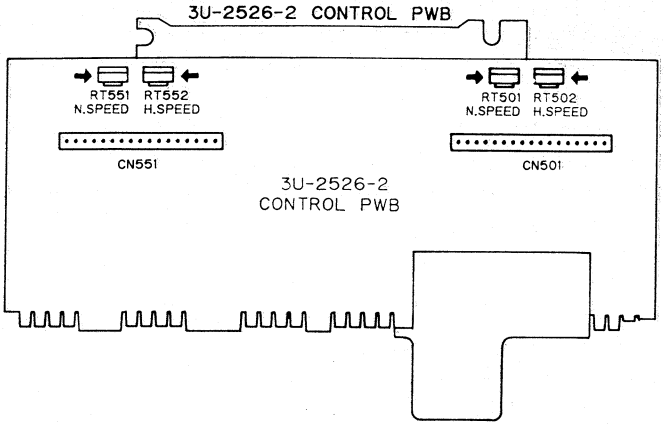
SONY TY-224

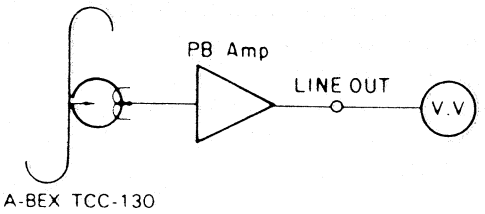
Mode	A/B	Adjusting volume number	F. counter (Hz)
Normal speed	A	RT-501	3020±10
	B	RT-551	3010±10
High speed	A	RT-502	6030±20
	B	RT-552	6020±20

4. Adjusting the Playback Section

(1) Adjusting the playback level

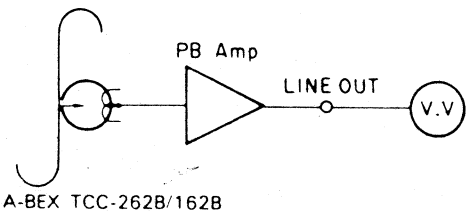
Playback the Dolby standard level test tape (A-BEX TCC-130) and adjust RT-101 (L ch: Deck A), RT-201 (R ch: Deck A), RT-102 (L ch: Deck B), RT-202 (R ch: Deck B) so that the LINE OUT voltage becomes 0 dB (775 mV).

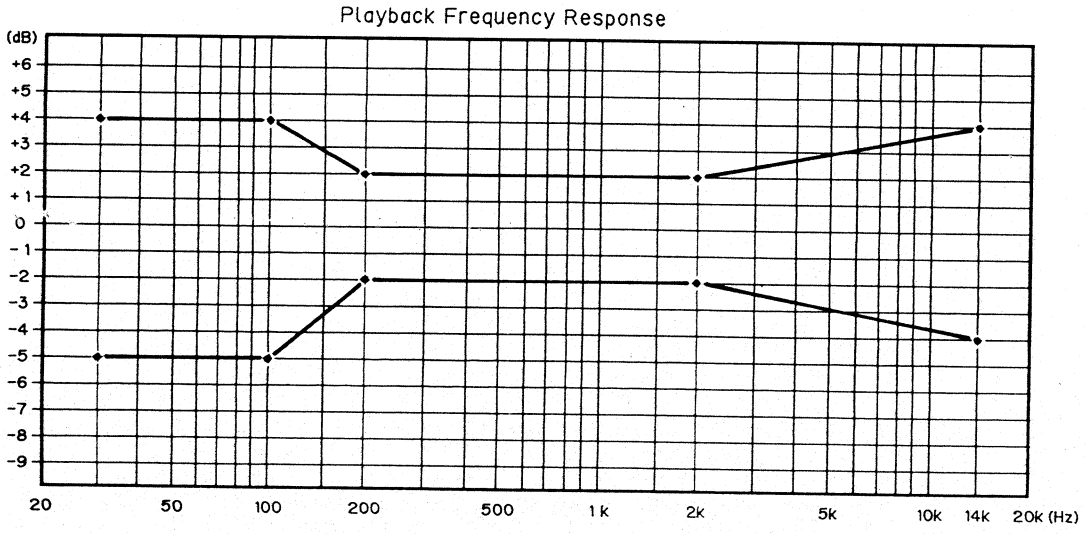




(2) Adjusting the playback frequency response

Playback the test tape (A-BEX TCC-262B/162B) and check to make sure that the frequency response meets the specifications in the diagram.





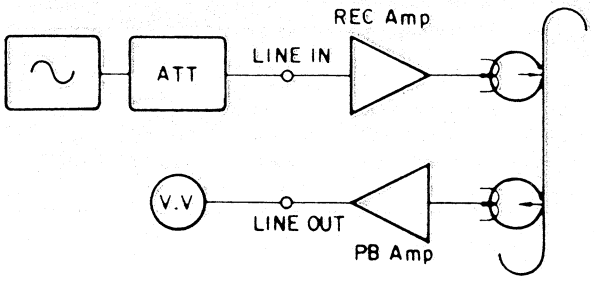
Tape : A-BEX TCC-262B/162B

5. Adjusting the Recording Section

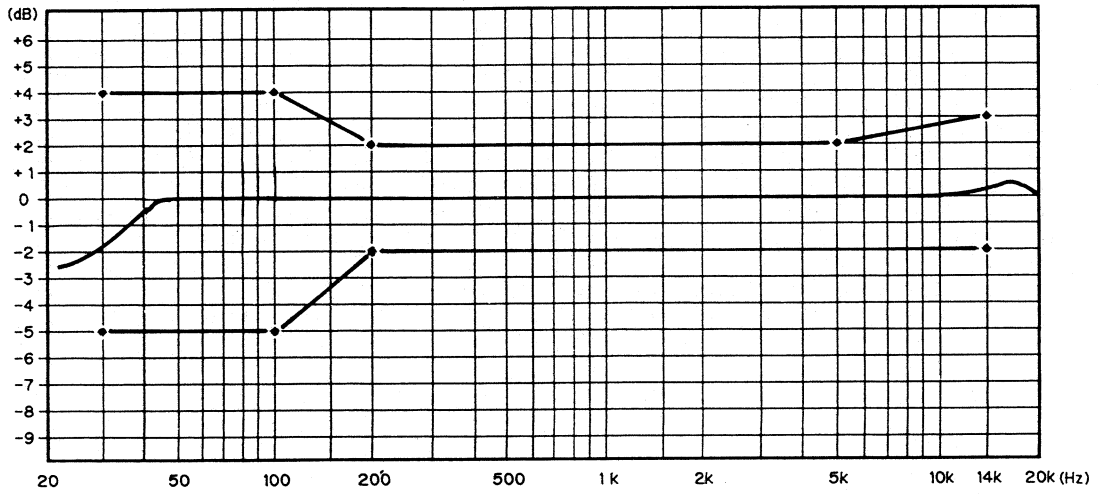
(1) Adjusting the record/playback overall frequency response (CrO_2)

1) Load the test tape HD7E/60, record a signal with an input level of −40 dB, 1 kHz at the LINE IN terminal; playback this recording.

2) Change the frequency of the input signal to 10 kHz, record and playback; adjust RT-105 (L ch: Deck A), RT-205 (R ch: Deck A), RT-106 (L ch: Deck B), RT-206 (R ch: Deck B) so that the characteristic standards meet the following diagram when compared to the 1 kHz signal output level.
(The other TAPE POSITIONS will automatically be adjusted by finishing of the foregoing adjustments.)



Record/ Playback Overall Frequency Response



Tape : HD-7E/60
Dolby NR : Off
Level : -20dB From Dolby Level

(2) Adjusting the record/playback levels (CrO_2)

1) Load a HD7E/60 tape and after having recorded a signal of 1 kHz (−20 dB), play it back.

2) Adjust RT-105 (L ch: Deck A), RT-205 (R ch: Deck A), RT-106 (L ch: Deck B), RT-206 (R ch: Deck B) so that the output from the line out terminal has the same value as the output when monitoring the recording.

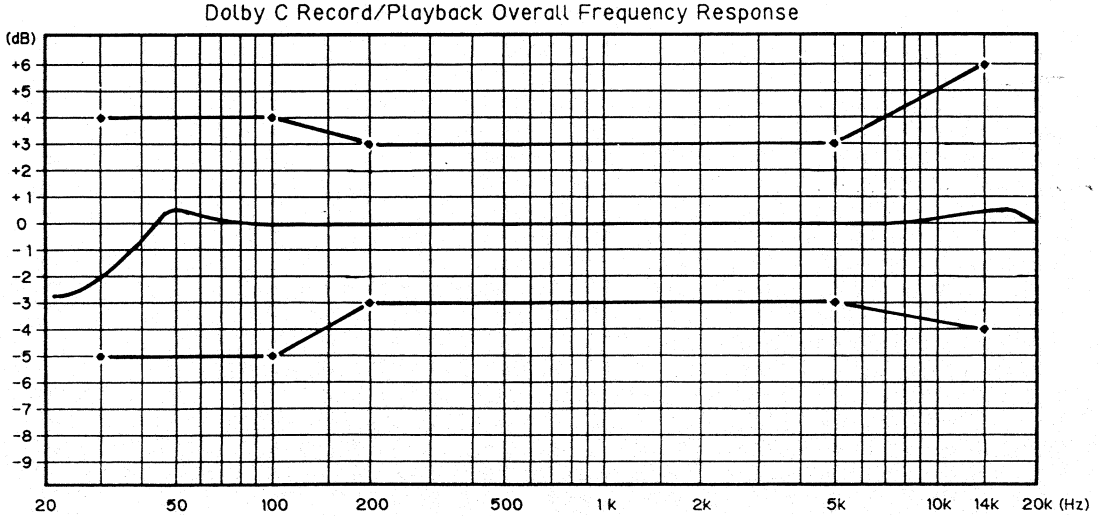
(3) Checking the Dolby C record/playback overall frequency response

1) Set the DOLBY NR switch to the "C" position.

2) Using the test tapes HD7E/60, perform record/playback in the same manner as 5-(1).

3) Check to make sure that the record/playback overall frequency response meets the specifications in the diagram.

Dolby C Record/Playback Overall Frequency Response



Tape : HD-7E/60
Dolby NR : On C
Level : -20dB From Dolby Level

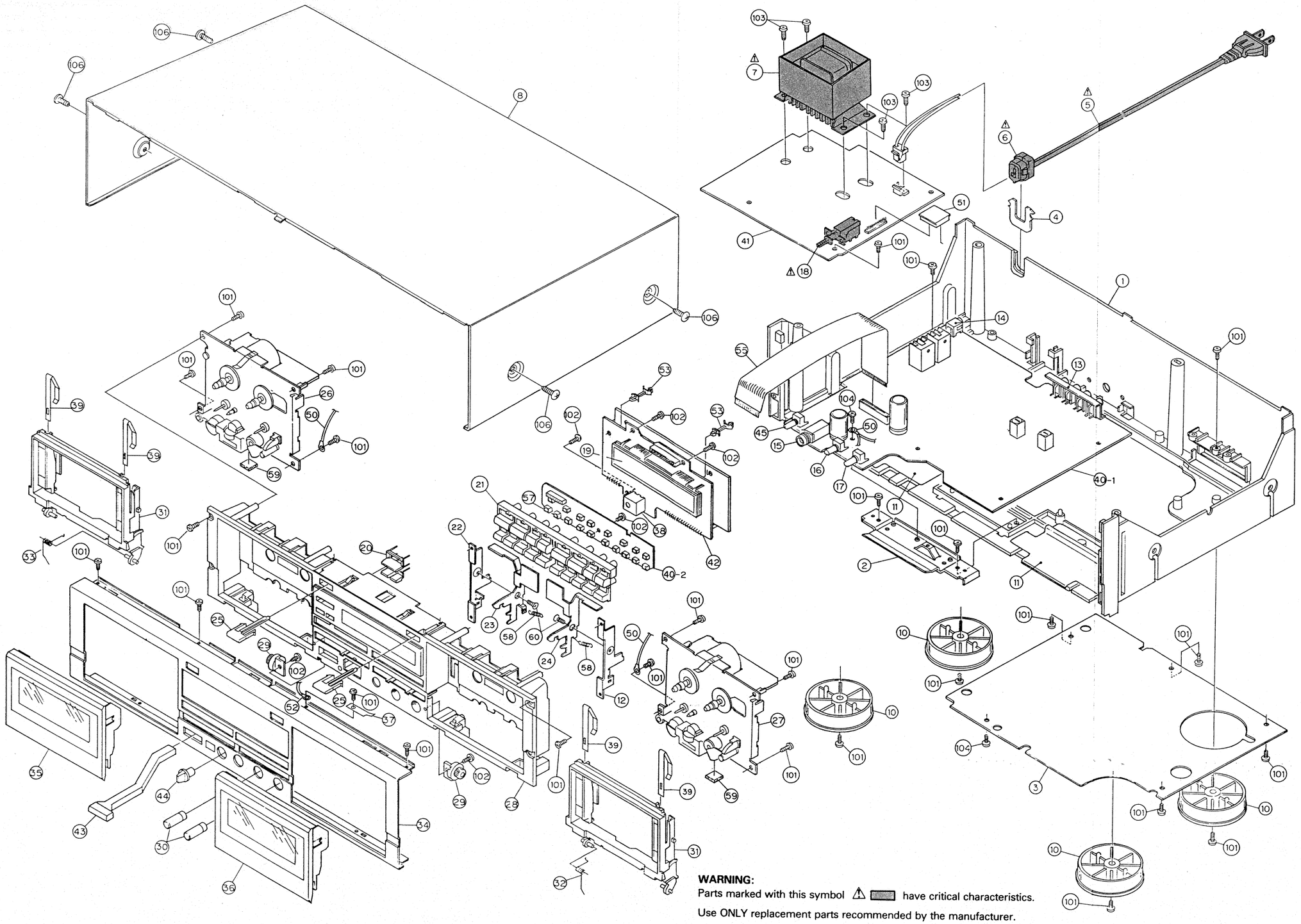
PARTS LIST OF EXPLODED VIEW

Ref. No.	Part No.	Part Name	Remarks
◉ 1	411 1150 146	CHASSIS	Europe, Australia
◉ 1	411 1150 175	CHASSIS	U.S.A., Canada
◉ 1	411 1150 159	CHASSIS	Multi-Voltage (Asia)
◉ 1	411 1150 162	CHASSIS	(Gold)
◉ 2	412 2523 102	EARTH BRACKET	
◉ 3	105 0787 000	BOTTOM COVER	
◉ 4	412 2008 012	BUSHING PLATE	
⚠ 5	206 2089 106	AC CORD WITH PLUG	Europe
⚠ 5	206 2087 108	AC CORD	Australia
⚠ 5	206 2100 001	AC CORD	U.S.A., Canada
⚠ 5	206 2088 000	AC CORD	Multi-Voltage (Asia)
⚠ 6	445 0056 008	CORD BUSH	
⚠ 7	233 6015 000	POWER TRANSFORMER	Europe, Australia
⚠ 7	233 5815 007	POWER TRANSFORMER	U.S.A., Canada
⚠ 7	233 5816 006	POWER TRANSFORMER	Multi-Voltage (Asia)
◉ 8	102 0434 309	TOP COVER	
◉ 8	102 0434 312	TOP COVER	(Gold)
10	104 0208 201	FOOT ASS'Y	
● 11	414 0625 008	SHIELD LABEL	
● 12	412 3628 006	LEVER STAY (B)	
13	204 8261 003	4P PIN JACK	
14	204 8416 007	MINI JACK	
15	204 8264 026	HEAD PHONE JACK	
16	211 0787 004	VOLUME CONT. (BIAS)	V0920V30FB102K (VR302)
17	211 0786 005	VOLUME CONT. (INPUT)	V0920V25FA104 (VR301)
⚠ 18	212 0286 003	POWER SWITCH	(SW901)
19	393 4151 006	FL TUBE	FIP7BAM6 (FL601)
20	113 1569 008	PUSH BUTTON	
20	113 1569 011	PUSH BUTTON	U.S.A., Canada
20	113 1569 024	PUSH BUTTON	(Gold)
21	113 1557 230	FUNCTION BUTTON	
21	113 1557 243	FUNCTION BUTTON	U.S.A., Canada
21	113 1557 256	FUNCTION BUTTON	(Gold)
◉ 22	412 3599 009	LEVER STAY (A)	
◉ 23	412 3597 108	EJECT LEVER (A)	
◉ 24	412 3598 107	EJECT LEVER (B)	
25	113 1556 008	EJECT BUTTON	
25	113 1556 011	EJECT BUTTON	U.S.A., Canada
25	113 1556 024	EJECT BUTTON	(Gold)
◉ 26	338 0161 006	CASSETTE MECHA. (A)	
◉ 27	338 0162 005	CASSETTE MECHA. (B)	
◉ 28	103 1584 109	FRONT ESC. ASS'Y	
◉ 28	103 1584 112	FRONT ESC. ASS'Y	U.S.A., Canada
◉ 28	103 1584 125	FRONT ESC. ASS'Y	(Gold)
29	421 9007 007	MINI DAMPER	
30	112 0720 007	VOLUME KNOB (B)	
30	112 0720 010	VOLUME KNOB (B)	(Gold)
31	103 1372 502	CASSETTE BOX	
31	103 1372 515	CASSETTE BOX	U.S.A., Canada
32	463 0728 004	BOX SPRING (R)	
33	463 0727 005	BOX SPRING (L)	
◉ 34	144 2264 005	FRONT PANEL ASS'Y	
◉ 34	144 2264 018	FRONT PANEL ASS'Y	(Gold)
◉ 35	103 1585 001	CASSETTE WINDOW (A) ASS'Y	
◉ 35	103 1585 014	CASSETTE WINDOW (A) ASS'Y	U.S.A., Canada
◉ 35	103 1585 027	CASSETTE WINDOW (A) ASS'Y	(Gold)
◉ 36	103 1452 309	CASSETTE WINDOW (B) ASS'Y	
● 36	103 1452 312	CASSETTE WINDOW (B) ASS'Y	U.S.A., Canada
● 36	103 1452 325	CASSETTE WINDOW (B) ASS'Y	(Gold)
37	414 0595 015	EARTH PLATE	
38	499 0150 008	REMOTE UNIT	SBX1610-52 (IC602)
39	463 0655 009	CASSETTE SPRING	
● 40	3U-2527 Z	AUDIO P.W.B. UNIT	
40-1		AUDIO UNIT	
40-2		SWITCH UNIT	
● 41	3U-2525 Z	POWER SUPPLY P.W.B. UNIT	Europe
● 41	3U-2525 A	POWER SUPPLY P.W.B. UNIT	Australia
● 41	3U-2525 E3	POWER SUPPLY P.W.B. UNIT	U.S.A., Canada
● 41	3U-2525 M	POWER SUPPLY P.W.B. UNIT	Multi-Voltage (Asia)
● 42	3U-2526 Z	CONTROL P.W.B. UNIT	
43	431 0308 100	POWER SW. LEVER ASS'Y	
43	431 0308 113	POWER SW. LEVER ASS'Y	U.S.A., Canada
43	431 0308 126	POWER SW. LEVER ASS'Y	(Gold)
44	112 0485 151	VOLUME KNOB (B)	
44	112 0485 164	VOLUME KNOB (B)	(Gold)
45	212 0345 009	ROTARY SWITCH (RK09K)	DOLBY (SW701)
⚠ 47	205 0581 001	2P VH CONNECTOR BASE	
50	203 2279 014	2C TERMINAL WIRE 3T	
51	205 0712 090	15P TBG-S CONNECTOR	
52	203 0440 036	1P CONTACT ASS'Y	
● 53	415 0335 003	PCB SUPPORT	
55	009 0043 022	35P FFC CABLE	
57	212 4388 907	TACT SWITCH	
58	463 8238 004	SPRING	
59	461 0206 009	RUBBER SHEET	
60	473 8047 001	SPECIAL SCREW	
101	473 7508 017	3×10 CBTS (P)-B SCREW	
102	473 7500 044	3×8 CBTS (P)-B SCREW	
103	473 7502 013	4×10 CBTS (P)-Z SCREW	
104	473 7002 018	3×8 CBTS (S)-Z SCREW	
106	473 7503 038	4×10 CTTS (P) BK SCREW	
106	473 7503 041	4×10 CTTS (P) NI SCREW	(Gold)
★ ⚠	212 4698 008	VOLTAGE SELECTOR (D)	Multi-Voltage (Asia) Only

WARNING:

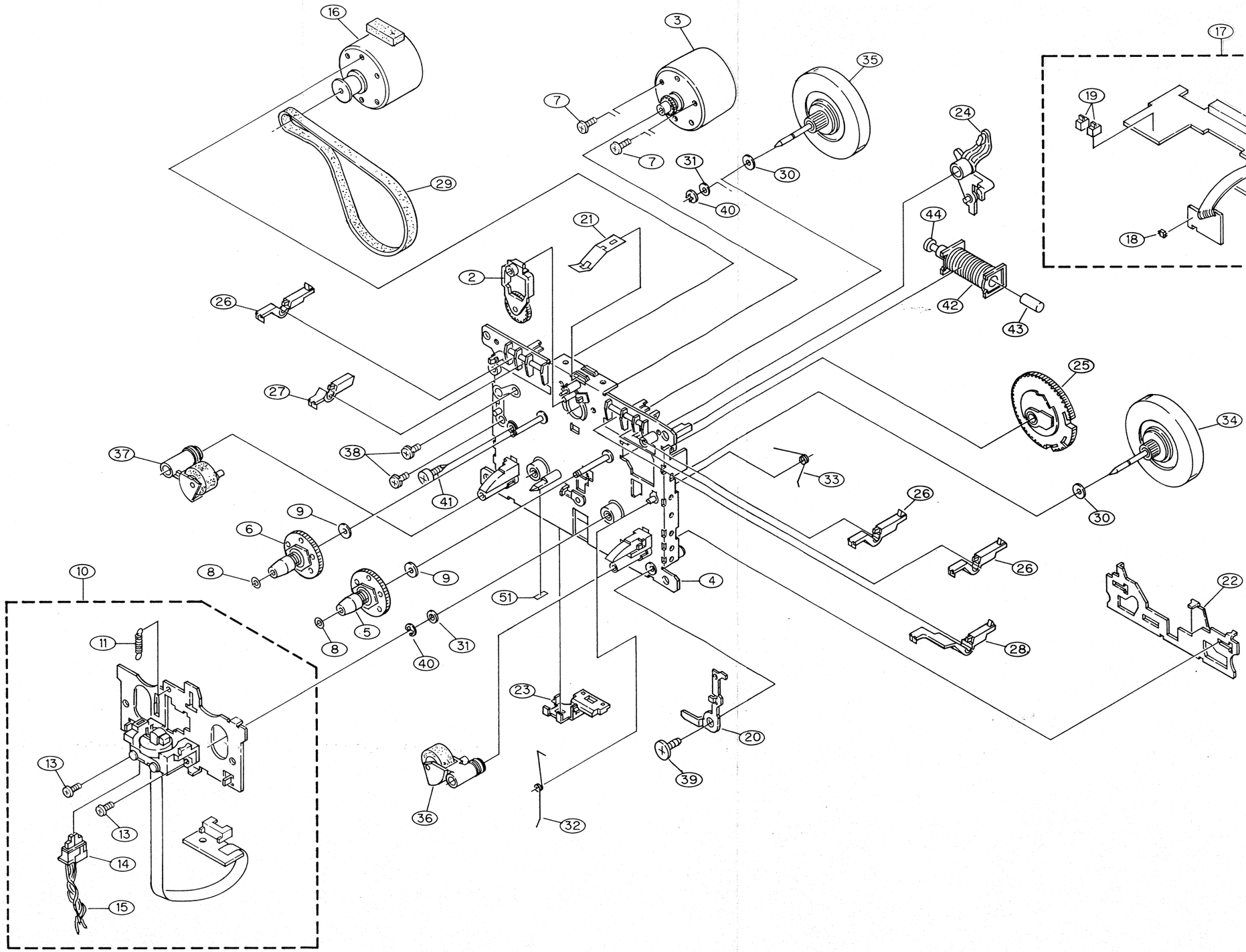
- Parts marked with ⚠ and/shading have special characteristics important to sefty.
  Be sure to use the specified parts for replacement.
- Part indicated with the mark ● are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.
- (Gold) in the Remarks column refers with gold front panels.
- Part indicated with the mark ★ is not illustrated n the exploded view.

EXPLODED VIEW



WARNING:
Parts marked with this symbol ⚠ ▭ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

EXPLODED VIEW OF CASSETTE MECHNISM (A)



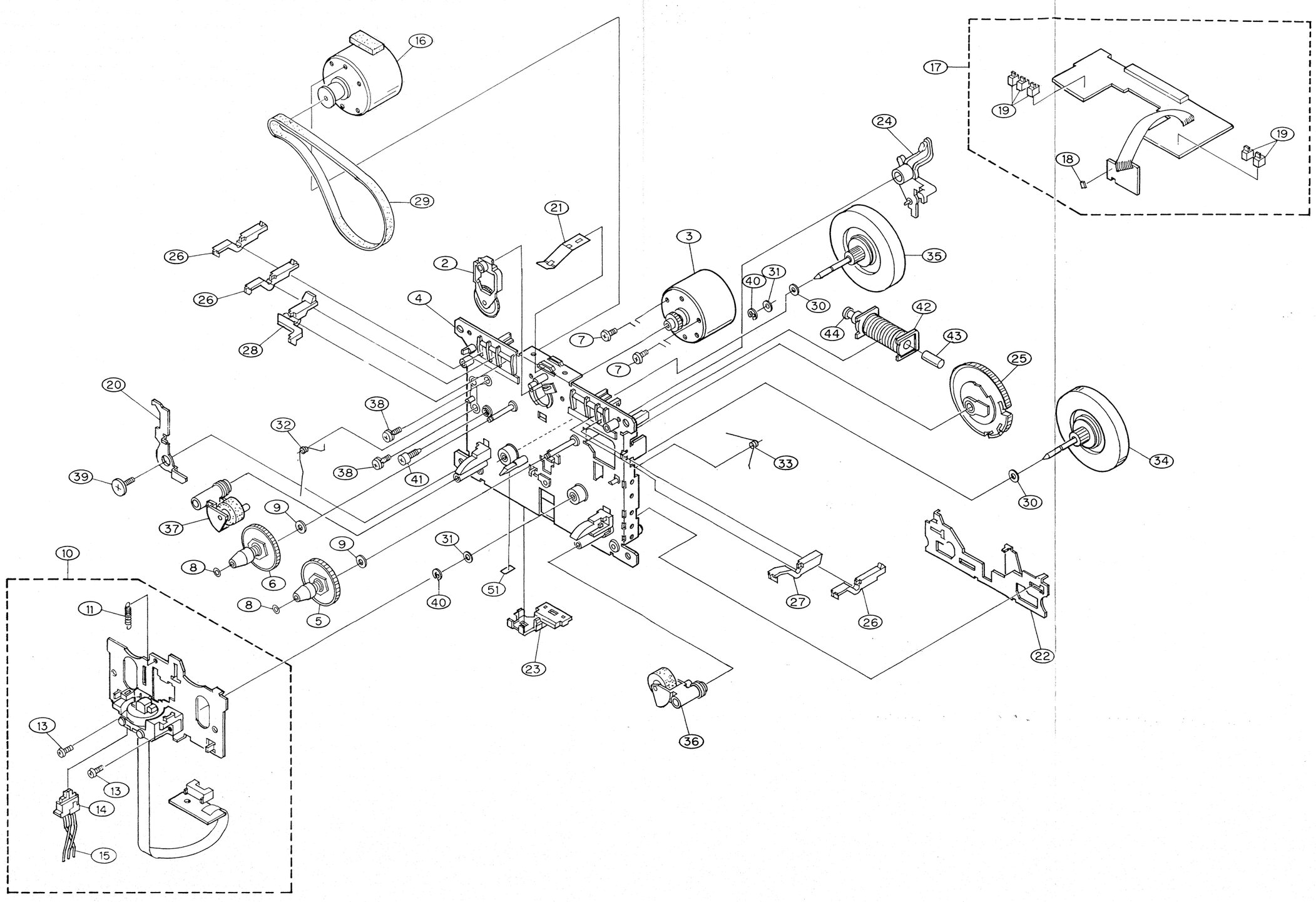
PARTS LIST OF CASSETTE MECHANISM (A) EXPLODED VIEW

Ref. No.	Part No.	Part Name	Remarks
2	9DF 5170 49	IDLER ASS'Y	
3	9DF 5642 80	REEL MOTOR ASS'Y	
4	9DF 6121 82	CAHSSIS BASE ASS'Y	
5	9DF 6230 37	REEL BASE ASS'Y	
6	9DF 6231 27	REEL BASE ASS'Y	
7	9DF G156 11A	SCREW 2.6×6.0	
8	9DF J111 17	POLY. WASHER 1.7×0.25	
9	9DU J12V 11	POLY. WASHER 2.1×0.25	
10	9DF 5136 82	PLATE HD ASS'Y	
11	9DF K26N 14	HB SPRING	
13	9DU G19D 11	SCREW TT 2.0×5	
14	9DA Z13P 00	SPI-320BC	
15	9DW G50M 03A	QS READ WIRE	
16	9DF 5252 56	MAIN MOTOR ASS'Y	
17	9DF 5674 97	CONTROL P.W.B. ASS'Y	
18	9DA W13G 00	SG-107F3	
19	9DU E16E 11	PUSH SWITCH	
20	9DF C39M 68	EJECT PREVENT ARM (R)	
21	9DF C52H 13	CASSETTE HOLD SPRING	
22	9DF C52F 15	SLIDE PLATE	
23	9DF D45H 15	READ HOLDER	
24	9DF D45G 13	PLAY ARM	
25	9DF D45B 16	CAM GEAR	
26	9DF D44T 14	REC DETECT LEVER	
27	9DF D44W 12	PACK DETECT LEVER (L)	
28	9DF D44U 12	METAL DETECT LEVER (R)	
29	9DF F17G 31	MAIN BELT	
30	9DF J111 30	POLY. WASHER 2.6×0.25	
31	9DF J111 14	POLY. WASHER 2.6×0.5	
32	9DF K28L 17	EJECT PREVENT SPRING (R)	
33	9DF K28R 11	SLIDE SPLING	
34	9DF R22D 11	FLY WHEEL ASS'Y (D2.2)	
35	9DF R22E 13	FLY WHEEL ASS'Y (D2.0)	
36	9DF R20L 21A	PINCH ROLLER ASS'Y (R)	
37	9DF R20M 22	PINCH ROLLER ASS'Y (L)	
38	9DF G114 14	SCREW 2.6×5 ZN	
39	9DU G15S 11A	SCREW WITH STAIR (7.7)	
40	9DU G13U 15	E RING	
41	9DU G20B 11	WAVE SCREW 3.0×8	
42	9DF 7652 63	SOLENOID BLK	
43	9DF L39H 12A	IRON CORE	
44	9DF L39K 12	PLUNGER	
51	9DU T11R 11	REFLECTOR	

PARTS LIST OF CASSETTE MECHANISM (B) EXPLODED VIEW

Ref. No.	Part No.	Part Name	Remarks
2	9DF 5170 49	IDLER ASS'Y	
3	9DF 5642 80	REEL MOTOR ASS'Y	
4	9DF 6121 82	CHASSIS BASE ASS'Y	
5	9DF 6230 37	REEL BASE ASS'Y	
6	9DF 6231 27	REEL BASE ASS'Y	
7	9DF G156 11A	SCREW 2.6×6.4	
8	9DF J111 17	POLY. WASHER 1.7×0.25	
9	9DU J12V 11	POLY. WASHER 2.1×0.25	
10	9DF 5136 82	PLATE HD ASS'Y	
11	9DF K26N 14	HB SPRING	
13	9DU G19D 11	SCREW TT 2.0×5	
14	9DA Z13P 00	SPI-320BC	
15	9DW G50M 030A	QS READ WIRE	
16	9DF 5252 56	MAIN MOTOR ASS'Y	
17	9DF 5675 01	CONTROL P.W.B ASS'Y	
18	9DA W13G 00	SG-107F3	
19	9DU E16E 11	PUSH SWITCH	
20	9DF C39L 70	EJECT PREVENT ARM (L)	
21	9DF C52H 13	CASSETTE HOLD SPRING	
22	9DF C52F 15	SLIDE PLATE	
23	9DF D45H 15	READ HOLDER	
24	9DF D45G 13	PLAY ARM	
25	9DF D45B 16	CAM GEAR	
26	9DF D44T 14	REC DETECT LEVER	
27	9DF D44Y 12	PACK DETECT LEVER (R)	
28	9DF D44V 12	METAL DETECT LEVER (L)	
29	9DF F17G 31	MAIN BELT	
30	9DF J111 30	POLY. WASHER 2.6×0.25	
31	9DF J111 14	POLY. WASHER 2.6×0.5	
32	9DF K28M 16	EJECT PREVENT SPRING (L)	
33	9DF K28R 11	SLIDE SPLING	
34	9DF R22D 11	FLY WHEEL ASS'Y (D2.2)	
35	9DF R22E 13	FLY WHEEL ASS'Y (D2.0)	
36	9DF R20L 21A	PINCH ROLLER ASS'Y (R)	
37	9DF R20M 22	PINCH POLLER ASS'Y (L)	
38	9DF G114 14	SCREW 2.6×5 ZN	
39	9DU G15S 11A	SCREW WITH STAIR (7.7)	
40	9DU G13U 15	E RING	
41	9DU G20B 11	WAVE SCREW 3.0×8	
42	9DF 7652 63	SOLENOID BLK	
43	9DF L39H 12A	IRON CORE	
44	9DF L39K 12	PLUNGER	
51	9DU T11R 11	REFLECTOR	

EXPLODED VIEW OF CASSETTE MECHANISM (B)



NOTE FOR PARTS LIST

- Part indicated with the mark " ◉ " are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.
- When ordering of part, clearly indicate "1" and "I" (i) to avoid mis-supplying.
- Ordering part without stating its part number can not be supplied.
- Part indicated with the mark "★" is not illustrated inthe exploded view.
- Not including Carbon Film ±5%, 1/4W Type in the P.W.Board parts list. (Refer to the Schematic Diagram for those parts.)

WARNING:

Parts marked with this symbol ⚠ ▭ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

● Resistors

Ex.: RN Type, 14K Shape and performance, 2E Power, 182 Resistance, G Allowable error, FR Others

RD : Carbon RC : Composition RS : Metal oxide film RW : Winding RN : Metal film RK : Metal mixture	2B : 1/8W 2E : 1/4W 2H : 1/2W 3A : 1W 3D : 2W 3F : 3W 3H : 5W	F : ±1% G : ±2% J : ±5% K : ±10% M : ±20%	P : Pulse-resistant type NL : Low noise type NB : Non-burning type FR : Fuse-resistor F : Lead wire forming

*** Resistance**

1 8 2 ——— 1800 ohm = 1.8 kohm
- 2 ——— 2-digit effective number.
- 8 ——— Indicates number of zeros after effective number.

● Units: ohm

1 R 2 ——— 1.2 ohm
- 2 ——— 2-digit effective number, decimal point indicated by R.
- 1 ——— 1-digit effective number.

● Units: ohm

*** Capacity (electrolyte only)**

2 2 2 ——— 2200μF
- 2 ——— 2-digit effective number.
- 2 ——— Indicates number of zeros after effective number.

● Units: μF.

2 R 2 ——— 2.2μF
- 2 ——— 2-digit effective number, decimal point indicated by R.
- R ——— 1-digit effective number.

● Units: μF.

● Capacitors

Ex.: CE Type, 04W Shape and performance, 1H Dielectric strength, 2R2 Capacity, M Allowable error, BP Others

CE : Aluminum foil electrolytic CA : Aluminum solid electrolytic CS : Tantalm electrolitic CQ : Film CK : Ceramic CC : Ceramic CP : Oil CM : Mica CF : Metalized CH : Metalized	0J : 6.3V 1A : 10V 1C : 16V 1E : 25V 1V : 35V 1H : 50V 2A : 100V 2B : 125V 2C : 160V 2D : 200V 2E : 250V 2H : 500V 2J : 630V	F : ±1% G : ±2% J : ±5% K : ±10% M : ±20% Z : +80% −20% P : +100% −0% C : ±0.25pF D : ±0.5pF = : Others	HS : High stability type BP : Non-polar type HR : Ripple-resistant type DL : For charge and discharge HF : For assuring high frequency U : UL part C : CSA part W : UL-CSA type F : Lead wire foming

*** Capacity (except electrolyte)**

2 2 2 ——— 2200μμF = 0.0022μF
- 2 ——— 2-digit effective number.
- 2 (More than 2) ——— Indicates number of zeros after effective number.

● Units: μF.

2 2 1 ——— 220PF
- 1 (0 or 1) ——— Indicates number of zeros after effective number.
- 2 ——— 2-digit effective number.

● Units: PF.
● When the dielectric strength is indicated in AC, "AC" is included after the dielectric strength value.

PARTS LIST OF 3U-2527 AUDIO P.W.B. UNIT

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC301	262 0276 005	IC HD14066BP	
IC302	262 0864 006	IC UPC4570C	
IC303	263 0720 004	IC HA12170NT	
IC304	263 0565 007	IC BA15218	
IC305	263 0589 009	IC CXA1198AP	
IC306	262 0621 003	IC HD14051BP	
IC307, 308	263 0565 007	IC BA15218	
IC309, 310	263 0354 001	IC UPC1297CA	
TR101	275 0042 905	Transistor 2SK373(Y)TPE2	
TR103	275 0042 905	Transistor 2SK373(Y)TPE2	
TR104	269 0040 902	Digital Tr. DTC144ES(47K-47K)T	
TR105	269 0040 902	Digital Tr. DTC144ES(47K-47K)T	
TR106	269 0088 906	Digital Tr. DTC114TKT96	
TR108	269 0102 905	Digital Tr. DTC124EKT146	
TR109	273 0245 900	Transistor 2SC2603E/F T	
TR110	269 0074 907	Digital Tr. DTA114TS(10K)T	
TR111, 112	269 0088 906	Digital Tr. DTC114TKT96	
TR113	273 0245 900	Transistor 2SC2603E/F T	
TR114	269 0088 906	Digital Tr. DTC114TKT96	
TR115, 116	273 0245 900	Transistor 2CS2603E/F T	
TR140	275 0048 912	Transistor 2SK381(B)/(C)-T	
TR201	275 0042 905	Transistor 2SK373(Y)TPE2	
TR203	275 0042 905	Transistor 2SK373(Y)TPE2	
TR204	269 0040 902	Digital Tr. DTC144ES(47K-47K)T	
TR205	269 0040 902	Digital Tr. DTC144ES(47K-47K)T	
TR206	269 0088 906	Digital Tr. DTC114TKT96	
TR208	269 0102 905	Digital Tr. DTC124 EKT146	
TR209	273 0245 900	Transistor 2SC2603E/F T	
TR210	269 0074 907	Digital Tr. DTA114TS(10K)T	
TR211, 212	269 0088 906	Digital Tr. DTC114TKT96	
TR213	273 0245 900	Transistor 2SC2603E/F T	
TR214	269 0088 906	Digital Tr. DTC114TKT96	
TR215, 216	273 0245 900	Transistor 2SC2603E/F T	
TR240	275 0048 912	Transistor 2SK381(B)/(C)-T	
TR301, 302	269 0083 901	Digital Tr. DTA114EKT96	
TR303	269 0055 900	Digital Tr. DTA144EKT96	
TR304	269 0093 904	Digital Tr. DTA144ES(47K-47K)T	
TR306	269 0086 908	Digital Tr. DTA114TKT96	
TR307	269 0080 904	Digital Tr. DTA114TS(10K)T	
TR330, 331	269 0015 908	Digital Tr. DTC124XS(22K-47K)T	
TR332	272 0025 907	Transistor 2SB562(C)TF	
TR333	269 0048 904	Digital Tr. DTC143EK-T96	
TR334, 335	273 0245 900	Transistor 2SC2603E/F T	
TR350, 351	269 0015 908	Digital Tr. DTC124XS(22K-47K)T	
TR352	272 0025 907	Transistor 2SB562(C)TF	
TR353	269 0048 904	Digital Tr. DTC143EK-T96	
TR354, 355	273 0245 900	Transistor 2SC2603E/F T	
TR370	269 0048 904	Digital Tr. DTC143EK-T96	
TR371	269 0119 901	Digital Tr. DTA124EKT96(TAPE)	
TR372	269 0048 904	Digital Tr. DTC143EK-T96	
TR373	269 0102 905	Digital Tr. DTC124EKT146	
TR374	269 0016 907	Digital Tr. DTA144WS(47K-22K)T	
TR701, 702	269 0082 902	Digital Tr. DTC114EKT96	
D101 ~106	276 0432 903	Diode 1SS270A TE	
D151	276 0432 903	Diode 1SS270A TE	
D201 ~206	276 0432 903	Diode 1SS270A TE	
D251	276 0432 903	Diode 1SS270A TE	
D303 ~306	276 0432 903	Diode 1SS270A TE	
D311	276 0432 903	Diode 1SS270A TE	
D701, 702	276 0553 905	Diode 1SR35-200A(T93X)	
D705, 706	276 0432 903	Diode 1SS270A TE	
ZD301, 302	276 0461 903	Zener Diode HZS6A-1TD	
ZD310	276 0468 906	Zener Diode HZS9B-1TD	
ZD312	276 0468 906	Zener Diode HZS9B-1TD	
ZD331, 332	276 0468 906	Zener Diode HZS9B-1TD	
ZD351, 352	276 0468 906	Zener Diode HZS9B-1TD	
RESISTORS GROUP (not included Carbon Film ±5% 1/4W type)			
VR301	211 0786 005	Valiable 100K ohm	V0920V25FA104 (L=30) INPUT
VR302	211 0787 004	Valiable 1K ohm	V0920V30FB102K BIAS FINE
RT101, 102	211 6077 909	Adjust 1K ohm	V06PB102
RT103, 104	211 6077 954	Adjust 22K ohm	V06PB223
RT105, 106	211 6077 983	Adjust 47K ohm	V06PB473
RT201, 202	211 6077 909	Adjust 1K ohm	V06PB102
RT203, 204	211 6077 954	Adjust 22K ohm	V06PB223
RT205, 206	211 6077 983	Adjust 47K ohm	V06PB473
R001 ~004	247 1018 904	Chip 0 ohm	RM73B20R0KT
R006, 007	247 1018 904	Chip 0 ohm	RM73B20R0KT
R011	247 1018 904	Chip 0 ohm	RM73B20R0KT
R014 ~023	247 1018 904	Chip 0 ohm	RM73B20R0KT
R026	247 1018 904	Chip 0 ohm	RM73B20R0KT
R030	247 0018 905	Chip 0 ohm	RM73B--0R0KT
R032	247 0018 905	Chip 0 ohm	RM73B--0R0KT
R040	247 1018 904	Chip 0 ohm	RM73B20R0KT
R102	247 0015 940	Chip 2.2M ohm	RM73B--225JT
R104	247 0015 940	Chip 2.2M ohm	RM73B--225JT
R106	247 0005 905	Chip 100 ohm	RM73B--101JT
R107	247 0013 968	Chip 390K ohm	RM73B--394JT
R108	247 0010 945	Chip 18K ohm	RM73B--183JT
R109	247 0008 960	Chip 3.3K ohm	RM73B--332JT
R111	247 0009 943	Chip 6.8K ohm	RM73B--682JT
R114	247 0007 945	Chip 1K ohm	RM73B--102JT
R115	247 0008 960	Chip 3.3K ohm	RM73B--332JT
R118	247 0009 943	Chip 6.8K ohm	RM73B--682JT
R119	247 0010 961	Chip 22K ohm	RM73B--223JT
R120	247 0006 988	Chip 560 ohm	RM73B--561JT
R122	247 0010 929	Chip 15K ohm	RM73B--153JT
R125	247 0011 944	Chip 47K ohm	RM73B--473JT
R130	247 0008 928	Chip 2.2K ohm	RM73B--222JT
R133	247 0010 929	Chip 15K ohm	RM73B--153JT
R134	247 1009 900	Chip 4.7K ohm	RM73B2B472JT
R135	247 0008 928	Chip 2.2K ohm	RM73B--222JT
R136	247 0009 985	Chip 10K ohm	RM73B--103JT
R137	247 0008 928	Chip 2.2K ohm	RM73B--222JT
R138	247 0009 956	Chip 7.5K ohm	RM73B--752JT
R139	247 0008 928	Chip 2.2K ohm	RM73B--222JT
R142	247 0011 944	Chip 47K ohm	RM73B--473JT
R143	247 0011 902	Chip 33K ohm	RM73B--333JT
R144	247 0011 902	Chip 33K ohm	RM73B--333JT
R145	247 0005 905	Chip 100 ohm	RM73B--101JT
R146	247 0006 962	Chip 470 ohm	RM73B--471JT
R147	247 0010 987	Chip 27K ohm	RM73B--273JT
R148	247 0009 985	Chip 10K ohm	RM73B--103JT
R151	247 0010 987	Chip 27K ohm	RM73B--273JT
R152	247 0012 927	Chip 68K ohm	RM73B--683JT
R155	247 0005 905	Chip 100 ohm	RM73B--101JT
R156	247 0014 967	Chip 1M ohm	RM73B--105JT
⚠ R161	241 2315 912	Carbon Film 10 ohm 1/4W (Fusible)	RD14B2E100GFRST
R162	247 0012 969	Chip 150K ohm	RM73B--154JT
⚠ R164	241 2315 912	Carbon Film 10 ohm 1/4W (Fusible)	RD14B2E100GFRST
R165	247 1012 968	Chip 150K ohm	RM73B2B154JT
R166	247 0009 956	Chip 7.5K ohm	RM73B--752JT
R202	247 0015 940	Chip 2.2M ohm	RM73B--225JT
R204	247 0015 940	Chip 2.2M ohm	RM73B--225JT
R206	247 0005 905	Chip 100 ohm	RM73B--101JT
R207	247 0013 968	Chip 390K ohm	RM73B--394JT
R208	247 0010 945	Chip 18K ohm	RM73B--183JT
R209	247 0008 960	Chip 3.3K ohm	RM73B--332JT
R211	247 1009 942	Chip 6.8K ohm	RM73B2B682JT
R214	247 0007 945	Chip 1K ohm	RM73B--102JT
R218	247 0009 943	Chip 6.8K ohm	RM73B--682JT
R219	247 0010 961	Chip 22K ohm	RM73B--223JT
R220	247 0006 988	Chip 560 ohm	RM73B--561JT
R222	247 0010 929	Chip 15K ohm	RM73B--153JT
R225	247 0011 944	Chip 47K ohm	RM73B--473JT
R230	247 0008 928	Chip 2.2K ohm	RM73B--222JT
R233	247 0010 929	Chip 15K ohm	RM73B--153JT
R234	247 1009 900	Chip 4.7K ohm	RM73B2B472JT
R235	247 0008 928	Chip 2.2K ohm	RM73B--222JT
R236	247 0009 985	Chip 10K ohm	RM73B--103JT
R237	247 0008 928	Chip 2.2K ohm	RM73B--222JT
R238	247 0009 956	Chip 7.5K ohm	RM73B--752JT
R239	247 0008 928	Chip 2.2K ohm	RM73B--222JT
R242	247 0011 944	Chip 47K ohm	RM73B--473JT

Ref. No.	Part No.	Part Name	Remarks
R243	247 0011 902	Chip 33K ohm	RM73B--333JT
R244	247 0011 902	Chip 33K ohm	RM73B--333JT
R245	247 0005 905	Chip 100 ohm	RM73B--101JT
R246	247 0006 962	Chip 470 ohm	RM73B--471JT
R247	247 0010 987	Chip 27K ohm	RM73B--273JT
R248	247 0009 985	Chip 10K ohm	RM73B--103JT
R251	247 0010 987	Chip 27K ohm	RM73B--273JT
R252	247 0012 927	Chip 68K ohm	RM73B--683JT
R255	247 0005 905	Chip 100 ohm	RM73B--101JT
R256	247 0014 967	Chip 1M ohm	RM73B--105JT
⚠R261	241 2315 912	Carbon Film 10 ohm 1/4W (Fusible)	RD14B2E100GFRST
R262	247 0012 969	Chip 150K ohm	RM73B--154JT
⚠R264	241 2315 912	Carbon Film 10 ohm 1/4W (Fusible)	RD14B2E100GFRST
R265	247 0012 969	Chip 150K ohm	RM73B--154JT
R266	247 0009 956	Chip 7.5K ohm	RM73B--752JT
R301	247 0009 985	Chip 10K ohm	RM73B--103JT
R302	247 0012 927	Chip 100K ohm	RM73B--104JT
R303	247 0007 945	Chip 1K ohm	RM73B--102JT
R304	247 0009 985	Chip 10K ohm	RM73B--103JT
R305	247 0012 927	Chip 100K ohm	RM73B--104JT
R306	247 0007 945	Chip 1K ohm	RM73B--102JT
R309, 310	247 0006 920	Chip 330 ohm	RM73B--331JT
R313	247 0012 927	Chip 100K ohm	RM73B--104JT
R314	247 0010 961	Chip 22K ohm	RM73B--223JT
R315	247 0010 945	Chip 18K ohm	RM73B--183JT
R316	247 0012 927	Chip 100K ohm	RM73B--104JT
R317	247 0010 961	Chip 22K ohm	RM73B--223JT
R319	247 0008 986	Chip 3.9K ohm	RM73B--392JT
R320	247 0015 940	Chip 2.2M ohm	RM73B--225JT
R323	247 0009 901	Chip 4.7K ohm	RM73B--472JT
R324	247 0010 974	Chip 24K ohm	RM73B--243JT
R325	247 0009 901	Chip 4.7K ohm	RM73B--472JT
R326	247 1009 900	Chip 4.7K ohm	RM73B2B472JT
R328, 329	247 0007 958	Chip 1.1K ohm	RM73B--112JT
R330	247 0008 931	Chip 2.4K ohm	RM73B--242JT
R332	247 0007 974	Chip 1.3K ohm	RM73B--132JT
R333	247 0007 903	Chip 680 ohm	RM73B--681JT
R335	247 0009 901	Chip 4.7K ohm	RM73B--472JT
R336	247 0012 927	Chip 100K ohm	RM73B--104JT
R337	247 0012 927	Chip 100K ohm	RM73B--104JT
R338, 339	247 0001 983	Chip 4.7 ohm	RM73B--4R7KT
⚠R340, 341	241 2315 925	Carbon Film 22 ohm 1/4W (Fusible)	RD14B2E220GFRST
R350	247 0008 931	Chip 2.4K ohm	RM73B--242JT
R352	247 0007 974	Chip 1.3K ohm	RM73B--132JT
R353	247 0007 903	Chip 680 ohm	RM73B--681JT
R355	247 0009 901	Chip 4.7K ohm	RM73B--472JT
R356	247 0012 927	Chip 100K ohm	RM73B--104JT
R357	247 0012 927	Chip 100K ohm	RM73B--104JT
R358	247 0001 983	Chip 4.7 ohm	RM73B--4R7KT
R359			
⚠R360, 361	241 2315 925	Carbon Film 22 ohm 1/4W (Fusible)	RD14B2E220GFRST
R370	247 0015 940	Chip 2.2M ohm	RM73B--225JT
R371	247 0011 944	Chip 47K ohm	RM73B--473JT
R372	247 1007 944	Chip 1K ohm	RM73B2B102JT
R628	247 1009 984	Chip 10K ohm	RM73B2B103JT
R629	247 0009 985	Chip 10K ohm	RM73B--103JT
R630	247 0009 985	Chip 10K ohm	RM73B--103JT
R631	247 1009 900	Chip 4.7K ohm	RM73B2B472JT
R650	247 1005 946	Chip 150 ohm	RM73B2B151JT
R652	247 0005 963	Chip 180 ohm	RM73B--181JT
R654	247 0006 917	Chip 300 ohm	RM73B--301JT

Ref. No.	Part No.	Part Name	Remarks
R656	247 0006 959	Chip 430 ohm	RM73B--431JT
R658	247 0007 903	Chip 680 ohm	RM73B--681JT
R660	247 0007 974	Chip 1.3K ohm	RM73B--132JT
R662	247 0005 947	Chip 150 ohm	RM73B--151JT
R664	247 0005 963	Chip 180 ohm	RM73B--181JT
R666	247 0006 917	Chip 300 ohm	RM73B--301JT
R668	247 0006 959	Chip 430 ohm	RM73B--431JT
R670	247 0007 903	Chip 680 ohm	RM73B--681JT
R672	247 0007 974	Chip 1.3K ohm	RM73B--132JT
R674	247 1005 946	Chip 150 ohm	RM73B2B151JT
R676	247 0005 963	Chip 180 ohm	RM73B--181JT
R678	247 0006 917	Chip 300 ohm	RM73B--301JT
R680	247 0006 959	Chip 430 ohm	RM73B--431JT
R682	247 0007 903	Chip 680 ohm	RM73B--681JT
R684	247 0007 974	Chip 1.3K ohm	RM73B--132JT
R704	247 0009 985	Chip 10K ohm	RM73B--103JT
R705	247 0010 961	Chip 22K ohm	RM73B--223JT
R710	247 1009 900	Chip 4.7K ohm	RM73B2B472JT
R711	247 0009 985	Chip 10K ohm	RM73B--103JT
R712	247 0009 985	Chip 10K ohm	RM73B--103JT
R715	247 0009 985	Chip 10K ohm	RM73B--103JT
R716	247 1009 900	Chip 4.7K ohm	RM73B2B472JT
R717	247 1009 984	Chip 10K ohm	RM73B2B103JT
R718	247 0009 985	Chip 10K ohm	RM73B--103JT
CAPACITORS GROUP			
C101	257 0008 967	Chip(Ceramic)680p/50V	CK73B1H681KT
C103	257 0008 983	Chip(Ceramic)0.001μ/50V	CK73B1H102KT
C104	257 0008 967	Chip(Ceramic)680p/50V	CK73B1H681KT
C105	257 0008 983	Chip(Ceramic)0.001μ/50V	CK73B1H102KT
C106	257 0004 961	Chip(Ceramic)100p/50V	CC73SL1H101JT
C107	254 4250 929	Electrolytic 100μ/6.3V	CE04W0J101MT
C108	255 1256 903	Film 0.0075μ/50V	CQ92M1H752JT
C109	254 4258 905	Electrolytic 4.7μ/35V	CE04W1V4R7MT
C110	257 0005 902	Chip(Ceramic)150p/50V	CC73SL1H151JT
C111	255 1213 904	Film 0.012μ/50V	CQ93M1H123JT
C113	257 0009 937	Chip(Ceramic)0.0027μ/50V	CK73B1H272KT
C114 ~116	255 1204 900	Film 0.0022μ/50V	CQ93M1H222JT
C117, 118	254 4260 906	Electrolytic 0.1μ/50V	CE04W1H0R1MT
C119	254 4258 905	Electrolytic 4.7μ/35V	CE04W1V4R7MT
C120	254 4254 909	Electrolytic 10μ/16V	CE04W1C100MT
C121	253 9031 988	Ceramic 0.0056μ/25V	CK45=1E562KT
C122	254 4258 905	Electrolytic 4.7μ/35V	CE04W1V4R7MT
C123	254 4252 927	Electrolytic 47μ/10V	CE04W1A470MT
C124	256 1034 979	Metallized 0.1μ/50V	CF93A1H104JT
C125	257 0005 902	Chip(Ceramic)150p/50V	CC73SL1H151JT
C126	257 0009 982	Chip(Ceramic)0.0068μ/50V	CK73B1H682KT
C127	253 9031 988	Ceramic 0.0056μ/25V	CK45=1E562KT
C129	253 9031 975	Ceramic 0.0039μ/25V	CK45=1E392KT
C131	254 4254 909	Electrolytic 10μ/16V	CE04W1C100MT
C132	254 4260 935	Electrolytic 0.47μ/50V	CE04W1HR47MT
C133	254 4260 964	Electrolytic 3.3μ/50V	CE04W1H3R3MT
C134	254 3056 933	Electrolytic 3.3μ/50V(BP)	CE04D1H3R3BPT
C135	257 0005 902	Chip(Ceramic)150p/50V	CC73SL1H151JT
C137	254 3056 917	Electrolytic 1μ/50V(BP)	CE04D1H010BPT
C140	254 4258 905	Electrolytic 4.7μ/35V	CE04W1V4R7MT
C141	257 0008 909	Chip(Ceramic)220p/50V	CK73B1H221KT
C150	254 4260 951	Electrolytic 2.2μ/50V	CE04W1H2R2MT
C151	254 4260 948	Electrolytic 1μ/50V	CE04W1H010MT
C160	257 0011 941	Chip(Ceramic)0.022μ/25V	CK73B1E223KT
C161	257 0011 967	Chip(Ceramic)0.033μ/25V	CK73B1E333KT
C162	253 1131 909	Ceramic 390p/500V	CK45B2H391KT
C163	257 0004 961	Chip(Ceramic)100p/50V	CC73SL1H101JT
C164	257 0010 900	Chip(Ceramic)0.01μ/50V	CK73B1H103KT
C165	257 0008 996	Chip(Ceramic)0.0012μ/50V	CK73B1H122KT
C166	257 0011 941	Chip(Ceramic)0.022μ/25V	CK73B1E223KT
C167	257 0011 967	Chip(Ceramic)0.033μ/25V	CK73B1E333KT

Ref. No.	Part No.	Part Name	Remarks
C168	253 1131 909	Ceramic 390p/500V	CK45B2H391KT
C169	257 0004 961	Chip(Ceramic)100p/50V	CC73SL1H101JT
C170	257 0010 900	Chip(Ceramic)0.01μ/50V	CK73B1H103KT
C171	257 0008 996	Chip(Ceramic)0.0012μ/50V	CK73B1H122KT
C201	257 0008 967	Chip(Ceramic)680p/50V	CK73B1H681KT
C203	257 0008 983	Chip(Ceramic)0.001μ/50V	CK73B1H102KT
C204	257 0008 967	Chip(Ceramic)680p/50V	CK73B1H681KT
C205	257 0008 983	Chip(Ceramic)0.001μ/50V	CK73B1H102KT
C206	257 0004 961	Chip(Ceramic)100p/50V	CC73SL1H101JT
C207	254 4250 929	Electrolytic 100μ/6.3V	CE04W0J101MT
C208	255 1256 903	Film 0.0075μ/50V	CQ92M1H752JT
C209	254 4258 905	Electrolytic 4.7μ/35V	CE04W1V4R7MT
C210	257 0005 902	Chip(Ceramic)150p/50V	CC73SL1H151JT
C211	255 1213 904	Film 0.012μ/50V	CQ93M1H123JT
C213	257 0009 937	Chip(Ceramic)0.0027μ/50V	CK73B1H272KT
C214 ~216	255 1204 900	Film 0.0022μ/50V	CQ93M1H222JT
C217, 218	254 4260 906	Electrolytic 0.1μ/50V	CE04W1H0R1MT
C219	254 4258 905	Electrolytic 4.7μ/35V	CE04W1V4R7MT
C220	254 4254 909	Electrolytic 10μ/16V	CE04W1C100MT
C221	253 9031 988	Ceramic 0.0056μ/25V	CK45=1E562KT
C222	254 4258 905	Electrolytic 4.7μ/35V	CE04W1V4R7MT
C223	254 4252 927	Electrolytic 47μ/10V	CE04W1A470MT
C224	256 1034 979	Metallized 0.1μ/50V	CF93A1H104JT
C225	257 0005 902	Chip(Ceramic)150p/50V	CC73SL1H151JT
C226	257 0009 982	Chip(Ceramic)0.0068μ/50V	CK73B1H682KT
C227	253 9031 988	Ceramic 0.0056μ/25V	CK45=1E562KT
C229	253 9031 975	Ceramic 0.0039μ/25V	CK45=1E392KT
C231	254 4254 909	Electrolytic 10μ/16V	CE04W1C100MT
C232	254 4260 935	Electrolytic 0.47μ/50V	CE04W1HR47MT
C233	254 4260 964	Electrolytic 3.3μ/50V	CE04W1H3R3MT
C234	254 3056 933	Electrolytic 3.3μ/50V(BP)	CE04D1H3R3MBPT
C235	257 0005 902	Chip(Ceramic)150p/50V	CC73SL1H151JT
C237	254 3056 917	Electrolytic 1μ/50V(BP)	CE04D1H010MBPT
C240	254 4258 905	Electrolytic 4.7μ/35V	CE04W1V4R7MT
C241	257 0008 909	Chip(Ceramic)220p/50V	CK73B1H221KT
C250	254 4260 951	Electrolytic 2.2μ/50V	CE04W1H2R2MT
C251	254 4260 948	Electrolytic 1μ/50V	CE04W1H010MT
C260	257 0011 941	Chip(Ceramic)0.022μ/25V	CK73B1E223KT
C261	257 0011 967	Chip(Ceramic)0.033μ/25V	CK73B1E333KT
C262	253 1131 909	Ceramic 390p/500V	CK45B2H391KT
C263	257 0004 961	Chip(Ceramic)100p/50V	CC73SL1H101JT
C264	257 0010 900	Chip(Ceramic)0.01μ/50V	CK73B1H103KT
C265	257 0008 996	Chip(Ceramic)0.0012μ/50V	CK73B1H122KT
C266	257 0011 941	Chip(Ceramic)0.022μ/25V	CK73B1E223KT
C267	257 0011 967	Chip(Ceramic)0.033μ/25V	CK73B1E333KT
C268	253 1131 909	Ceramic 390p/500V	CK45B2H391KT
C269	257 0004 961	Chip(Ceramic)100p/50V	CC73SL1H101JT
C270	257 0010 900	Chip(Ceramic)0.01μ/50V	CK73B1H103KT
C271	257 0008 996	Chip(Ceramic)0.0012μ/50V	CK73B1H122KT
C301	257 0008 983	Chip(Ceramic)0.001μ/50V	CK73B1H102KT
C302	257 0010 900	Chip(Ceramic)0.01μ/50V	CK73B1H103KT
C303	254 4252 930	Electrolytic 100μ/10V	CE04W1A101MT
C304	257 0008 983	Chip(Ceramic)0.001μ/50V	CK73B1H102KT
C305	257 0010 900	Chip(Ceramic)0.01μ/50V	CK73B1H103KT
C306	254 4252 930	Electrolytic 100μ/10V	CE04W1A101MT
C307, 308	254 4252 927	Electrolytic 47μ/10V	CE04W1A470MT
C309 ~311	254 4254 909	Electrolytic 10μ/16V	CE04W1C100MT
C313	254 4260 935	Electrolytic 0.47μ/50V	CE04W1HR47MT
C314	254 4260 906	Electrolytic 0.1μ/50V	CE04W1H0R1MT
C330 ~333	254 4254 909	Electrolytic 10μ/16V	CE04W1C100MT
C334	257 0009 924	Chip(Ceramic)0.0022μ/50V	CK73B1H222KT
C335	257 0009 924	Chip(Ceramic)0.0022μ/50V	CK73B1H222KT
C336	257 0009 982	Chip(Ceramic)0.0068μ/50V	CK73B1H682KT
C337	257 0010 900	Chip(Ceramic)0.01μ/50V	CK73B1H103KT
C338	254 4256 949	Electrolytic 100μ/25V	CE04W1E101MT
C339	255 4120 900	Film 0.0068μ/100V	CQ93P2A682JT
C340	257 0002 921	Chip(Ceramic)10p/50V	CC73SL1H100DT
C341	257 1011 982	Chip(Ceramic)0.047μ/50V	CK73B1H473KT
C350, 351	254 4254 909	Electrolytic 10μ/16V	CE04W1C100MT
C354, 355	257 0009 924	Chip(Ceramic)0.0022μ/50V	CK73B1H222KT
C356	257 0009 982	Chip(Ceramic)0.0068μ/50V	CK73B1H682KT
C357	257 0010 900	Chip(Ceramic)0.01μ/50V	CK73B1H103KT
C358	254 4256 949	Electrolytic 100μ/25V	CE04W1E101MT
C359	255 4120 900	Film 0.0068μ/100V	CQ93P2A682JT
C360	257 0002 921	Chip(Ceramic)920p/50V	CC73SL1H921JT
C361	257 1011 982	Chip(Ceramic)0.047μ/50V	CK73B1H473KT
C370	257 0008 983	Chip(Ceramic)0.001μ/50V	CK73B1H102KT
C380	253 9031 917	Ceramic 0.068μ/25V	CK45=1E683KT
C390	257 0010 900	Chip(Ceramic)0.01μ/50V	CK73B1H103KT
C702	259 0007 715	Electrolytic 4700μ	SB CAP=-=472=C
C713, 714	254 4260 935	Electrolytic 0.47μ/50V	CE04W1HR47MT
C914	254 4261 730	Electrolytic 220μ/50V	CE04W1H221MC
OTHER PARTS			
L101	235 0020 945	INDUCTOR 153JT	
L102	232 0109 003	MPX FILTER	
L103	235 0020 916	INDUCTOR 822JT	
L104, 105	235 0020 945	INDUCTOR 153JT	
L106, 107	239 0010 009	HX STEP UP COIL	
L201	235 0020 945	INDUCTOR 153JT	
L202	232 0109 003	MPX FILTER	
L203	235 0020 916	INDUCTOR 822JT	
L204, 205	235 0020 945	INDUCTOR 153JT	
L206, 207	239 0010 009	HX STEP UP COIL	
L330, 350	232 0153 004	OSC COIL	
SW604 ~620	212 4388 907	TACT SWITCH	
SW701	212 0345 009	ROTARY SWITCH	
JK301	204 8261 003	4P PIN JACK	DOLBY
JK302	204 8264 026	HEAD PHONE JACK	LINE IN, OUT
JK303	204 8416 007	MINI JACK	HEAD PHONE
CN121	205 0549 014	35P FFC CONNECTOR BASE	CD SYNCRO.
CN131	205 0321 038	3P CONNECTOR BASE(RED)	
CN132	205 0343 032	3P CONNECTOR BASE(KR-PH)	
CN141	205 0406 034	3P CONNECTOR BASE(KR-PH)	
CN142	205 0323 036	3P CONNECTOR BASE(BLK)	
CN191	205 0711 091	15P TBG CONNECTOR BASE	

WARNING:

- Parts marked with ⚠ and/shading have special characteristics important to sefty.
  Be sure to use the specified parts for replacement.

PARTS LIST OF 3U-2526 CONTROL P.W.B. UNIT

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC501	262 0447 009	IC BA6109U1	
IC551	262 0447 009	IC BA6109U1	
IC601	262 1752 007	IC UPD78042-012-3B9	RA601, 602 not necessary
	or	IC UPD78P042-3BE	RA601, 602 necessary
IC602	499 0150 008	REMOTE SENSOR SBX1610-52	
TR501	269 0040 902	Digital Tr. DTC144ES(47K-47K)T	
TR502, 503	269 0099 908	Digital Tr. DTC143TS(4.7K)T	
TR504	271 0183 927	Transistor 2SA933(R/S)T-93	
TR505 ~507	274 0036 905	Transistor 2SD468(C)TF	
TR508	269 0015 908	Digital Tr. DTC124XS(22K-47K)T	
TR551	269 0040 902	Digital Tr. DTC144ES(47K-47K)T	
TR552, 553	269 0099 908	Digital Tr. DTC143TS(4.7K)T	
TR554	271 0183 927	Transistor 2SA933(R/S)T-93	
TR555 ~557	274 0036 905	Transistor 2SD468(C)TF	
TR558	269 0015 908	Digital Tr. DTC124XS(22K-47K)T	
TR601	269 0046 906	Digital Tr. DTA114ES(10K-10K)T	
TR602	269 0015 908	Digital Tr. DTC124XS(22K-47K)T	
TR603,	269 0020 906	Digital Tr. DTC114ES(10K-10K)T	
TR604	269 0046 906	Digital Tr. DTA114ES(10K-10K)T	
D501 ~504	276 0432 903	Diode 1SS270ATE	
D551 ~554	276 0432 903	Diode 1SS270ATE	
D601	276 0432 903	Diode 1SS270ATE	
D602	276 0553 905	Diode 1SR35-200A(T93X)	
D603	276 0432 903	Diode 1SS270ATE	
ZD501	276 0465 909	Zener Diode HZS7B-1TD	
ZD502	276 0457 904	Zener Diode HZS4C-1TD	
ZD551	276 0465 909	Zener Diode HZS7B-1TD	
ZD552	276 0457 904	Zener Diode HZS4C-1TD	
RESISTORS GROUP (not included Carbon Film ±5% 1/4W type)			
RT501	211 6070 032	Adjust 22K ohm	V06QB223
RT502	211 6070 029	Adjust 10K ohm	V06QB103
RT551	211 6070 032	Adjust 22K ohm	V06QB223
RT552	211 6070 029	Adjust 10K ohm	V06QB103
R501	247 0008 957	Chip 3K ohm	RM73B--302JT
R502	247 0008 902	Chip 1.8K ohm	RM73B--182JT
R503	247 0008 957	Chip 3K ohm	RM73B--302JT
R504	247 0008 902	Chip 1.8K ohm	RM73B--182JT
R505, 506	247 0007 945	Chip 1K ohm	RM73B--102JT
R507	247 0009 901	Chip 4.7K ohm	RM73B--472JT
R508	247 0010 961	Chip 22K ohm	RM73B--223JT
R509, 510	247 0009 985	Chip 10K ohm	RM73B--103JT
R511	247 0012 927	Chip 100K ohm	RM73B--104JT
R512	247 0009 985	Chip 10K ohm	RM73B--103JT
R513	247 0010 974	Chip 24K ohm	RM73B--243JT
R514	247 0010 961	Chip 22K ohm	RM73B--223JT
R516	247 0007 945	Chip 1K ohm	RM73B--102JT
⚠ R517	241 2315 912	Carbon Film 10 ohm 1/4W (Fusible)	RD14B2E100GFRST
R519	247 0007 945	Chip 1K ohm	RM73B--102JT
R520 ~522	247 0012 927	Chip 100K ohm	RM73B--104JT
R523	247 0012 927	Chip 100K ohm	RM73B--104JT
R525	244 2055 970	Metallic film 56 ohm ±5% 1W	RS14B3A560JST

Ref. No.	Part No.	Part Name	Remarks
R551	247 0008 957	Chip 3K ohm	RM73B--302JT
R552	247 0008 902	Chip 1.8K ohm	RM73B--182JT
R553	247 0008 957	Chip 3K ohm	RM73B--302JT
R554	247 0008 902	Chip 1.8K ohm	RM73B--182JT
R555, 556	247 0007 945	Chip 1K ohm	RM73B--102JT
R557	247 0009 901	Chip 4.7K ohm	RM73B--472JT
R558	247 0010 961	Chip 22K ohm	RM73B--223JT
R559, 560	247 0009 985	Chip 10K ohm	RM73B--103JT
R561	247 0012 927	Chip 100K ohm	RM73B--104JT
R562	247 0009 985	Chip 10K ohm	RM73B--103JT
R563	247 0010 974	Chip 24K ohm	RM73B--243JT
R564	247 0010 961	Chip 22K ohm	RM73B--223JT
R566	247 1007 944	Chip 1K ohmk	RM73B2B102JT
⚠ R567	241 2315 912	Carbon Film 10 ohm 1/4W (Fusible)	RD14B2E100GFRST
R569	247 1007 944	Chip 1K ohm	RM73B2B102JT
R570	247 1007 944	Chip 1K ohm	RM73B2B102JT
R571, 572	247 0007 945	Chip 1K ohm	RM73B--102JT
R573	247 0012 927	Chip 100K ohm	RM73B--104JT
R575	244 2055 970	Metallic film 56 ohm ± 5% 1W	RS14B3A560JST
R576 ~579	247 1018 904	Chip 0 ohm	RM73B20R0KT
R580 ~587	247 0018 905	Chip 0 ohm	RM73B--0R0KT
R590	247 1007 944	Chip 1K ohm	RM73B2B102JT
R591, 592	247 0007 945	Chip 1K ohm	RM73B--102JT
R593	247 1018 904	Chip 0 ohm	RM73B20R0KT
R603	247 0005 976	Chip 200 ohm	RM73B--201JT
R607	247 0010 961	Chip 22K ohm	RM73B--223JT
R610	247 0012 927	Chip 100K ohm	RM73B--104JT
R611	247 1012 926	Chip 100K ohm	RM73B2B104JT
R612	247 0005 963	Chip 180 ohm	RM73B--181JT
R613	247 0005 947	Chip 150 ohm	RM73B--151JT
R614	247 0007 945	Chip 1K ohm	RM73B--102JT
R618	247 1018 904	Chip 0 ohm	RM73B20R0KT
R620, 621	247 0012 927	Chip 100K ohm	RM73B--104JT
R685	247 0008 915	Chip 2K ohm	RM73B--202JT
R686	247 0018 904	Chip 0 ohm	RM73B20R0KT
R687	247 0012 927	Chip 100K ohm	RM73B--104JT
R688 ~690	247 1018 904	Chip 0 ohm	RM73B20R0KT
R691	247 0009 985	Chip 10K ohm	RM73B--103JT
R696, 697	247 0009 985	Chip 10K ohm	RM73B--103JT
R698	247 0012 927	Chip 100K ohm	RM73B--104JT
CAPACITORS GROUP			
C501, 502	257 0010 900	Chip (Ceramic) 0.01μ/50V	CK73B1H103KT
C503	257 0011 941	Chip (Ceramic) 0.022μ/25V	CK73B1E223KT
C504	257 0010 900	Chip (Ceramic) 0.01μ/50V	CK73B1H103KT
C505	254 4260 948	Electrolytic 1μ/50V	CE04W1H010MT
C506	254 4258 905	Electrolytic 4.7μ/35V	CE04W1V4R7MT
C551, 552	257 0010 900	Chip (Ceramic) 0.01μ/50V	CK73B1H103KT
C553	257 0011 941	Chip (Ceramic) 0.022μ/25V	CK73B1E223KT
C554	257 0010 900	Chip (Ceramic) 0.01μ/50V	CK73B1H103KT
C555	254 4260 948	Electrolytic 1μ/50V	CE04W1H010MT
C556	254 4258 905	Electrolytic 4.7μ/35V	CE04W1V4R7MT
C601 ~603	257 0008 983	Chip (Ceramic) 0.001μ/50V	CK73B1H102KT
C606	257 1013 977	Chip (Ceramic) 0.068μ/25V	CK73B1E683KT
C609	254 4305 984	Electrolytic 2.2μ/50V	CE04W1H2R2MT
C610	254 4305 997	Electrolytic 3.3μ/50V	CE04W1H3R3MT
C612	254 4403 718	Electrolytic 1000μ/25V	CE04W1E102MC

Ref. No.	Part No.	Part Name	Remarks
OTHER PARTS			
XT501	399 0107 007	CRYSTAL OSCILLATOR	CST4.19MGW
FL601	393 4151 006	FL TUBE	FIP7BAM6
SW601	212 5604 910	TACT SWITCH	
~603			
CN121	205 0549 014	35P FFC CONNECTOR BASE	
CN501	205 0801 008	17P TRAP CONNECTOR BASE	
CN551	205 0801 008	17P TRAP CONNECTOR BASE	
CN602	205 0800 009	6P PWB-PWB PIN	
CN603	205 0694 066	6P PWB-PWB SOCKET	

WARNING:

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  Be sure to use the specified parts for replacement.

PARTS LIST OF 3U-2525 POWER SUPPLY P.W.B. UNIT

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC901	263 0656 000	IC MC7808	
IC902	263 0657 009	IC MC7908	
IC903	263 0648 005	IC MC7806CT	
TR901	272 0025 907	Transistor 2SB562 (C) TF	
D901	276 0553 905	Diode 1SR35-200A (T93X)	
~906			
D908	276 0553 905	Diode 1SR35-200A (T93X)	
~911			
D912	276 0432 903	Diode 1SS270ATE	
ZD912	276 0482 908	Zener Diode HZS27-1TD	
ZD913	276 0467 907	Zener Diode HZS9A-1TD	
ZD914	276 0460 904	Zener Diode HZS5C-1TD	
CAPACITORS GROUP			
⚠ C901	253 8014 702	Ceramic 0.01μ/400VAC	CK45F2GAC103MC
C901, 902	254 4403 718	Electrolytic 1000μ/25V	CE04W1E102MC
C903, 904	253 9031 917	Ceramic 0.068μ/25V	CK45-1E683KT
C905, 906	254 4252 930	Electrolytic 100μ/10V	CE04W1A101MT
C907	254 4257 715	Electrolytic 4700μ/25V	CE04W1E472MC
C909	253 9031 917	Ceramic 0.068μ/25V	CK45-1E683KT
C910	254 4250 796	Electrolytic 4700μ/6.3V	CE04W0J472MC
C911	254 4260 951	Electrolytic 2.2μ/50V	CE04W1H2R2MT
C912	254 4414 707	Electrolytic 470μ/50V	CE04W1H471MC
C913	254 4258 947	Electrolytic 47μ/35V	CE04W1V470MT
C916	254 4256 907	Electrolytic 10μ/25V	CE04W1E100MT
OTHER PARTS			
SW901	212 0286 003	POWER SWITCH	
F901	206 1031 045	FUSE (0.25) A	
CN191	205 0711 091	15P TBG CONNECTOR BASE	
CN901	205 0581 001	2P VH CONNECTOR BASE	

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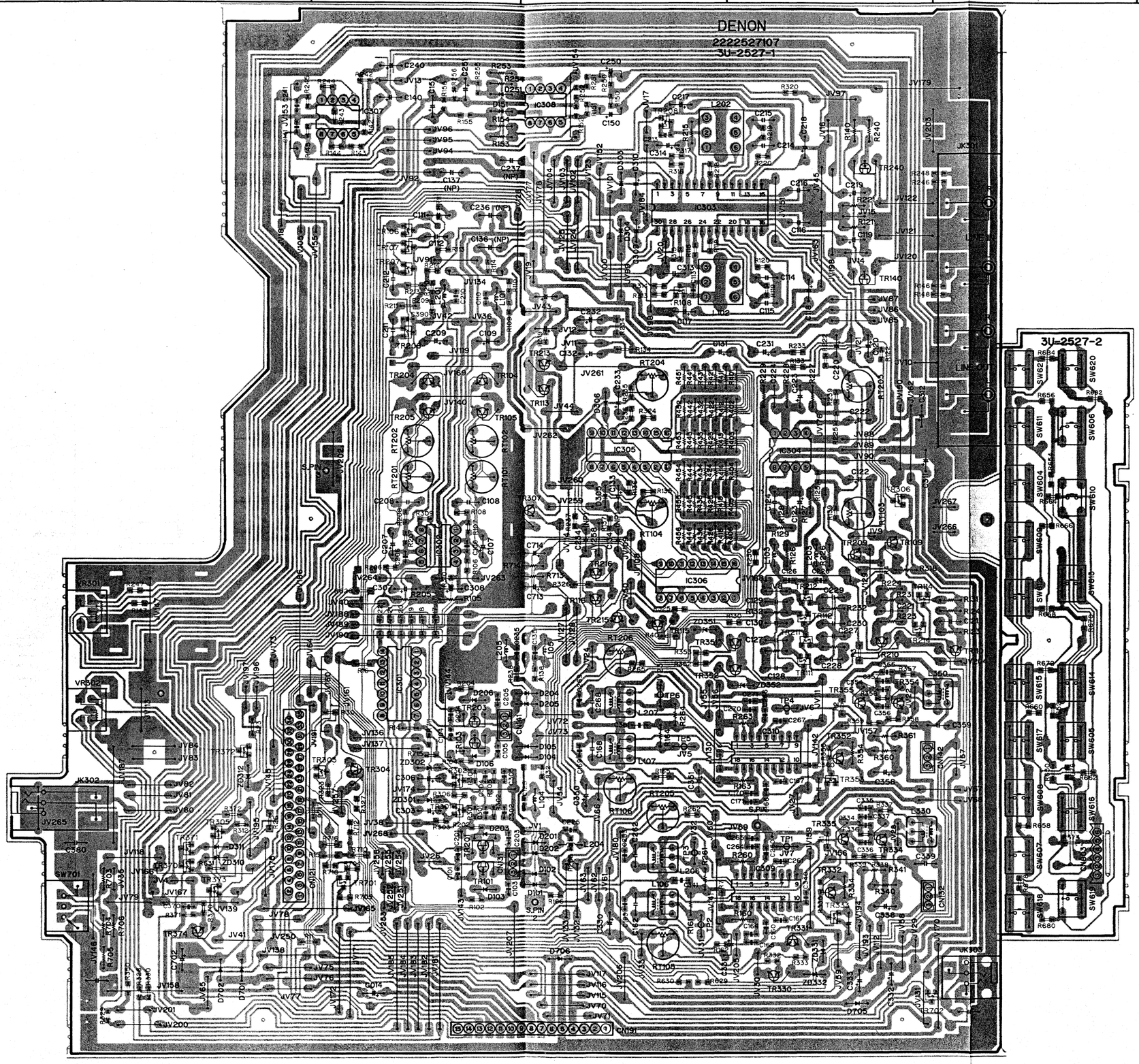
PARTS LIST OF PACKING & ACCESSORIES

Ref. No.	Part No.	Part Name	Remarks
	504 0092 060	STYLEN PAPER	FOR AC CORD
	505 0131 050	CABINET COVER	
	505 0038 030	POLY COVER	
	503 0704 106	PACKING ASS'Y	
	501 1630 011	CARTON CASE	
	511 2430 000	INST. MANUAL (8)	Europe
	511 2431 009	INST. MANUAL (3)	U.S.A., Canada, Australia, Multi. Voltage (Asia)
	203 2223 002	2P PIN CORD	
	203 4880 003	3P MINI PLUG CORD	
	515 0455 005	TAPE CATALOG	
	515 0623 002	DAI WARRANTY HOME	Europe Only U.S.A. Only
⚠	203 3667 007	PLUG ADAPTER	Multi. Voltage Only
	499 0154 101	REMOTE CONTROLLER (RC-410)	Multi. Voltage Only
	511 2451 005	INST. MANUAL (REMOTE CONTROLLER)	Multi Voltage Only
	515 0522 006	CAUTION SHEET	Multi. Voltage Only

WARNING:

- Parts marked with ⚠ and/shading have special characteristics important to sefty.
  Be sure to use the specified Parts for replacement.

P.W. BOARD OF 3U-2527 AUDIO UNIT



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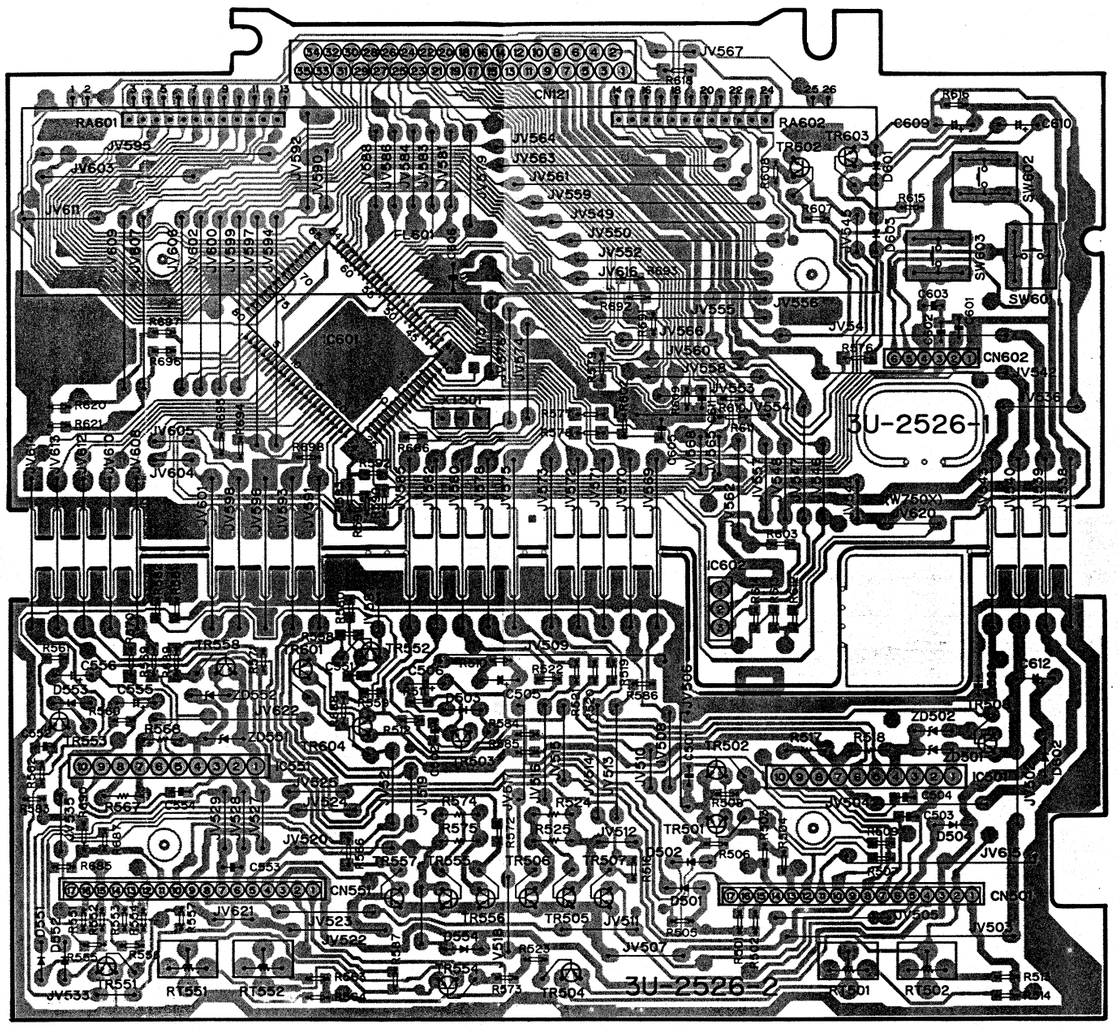

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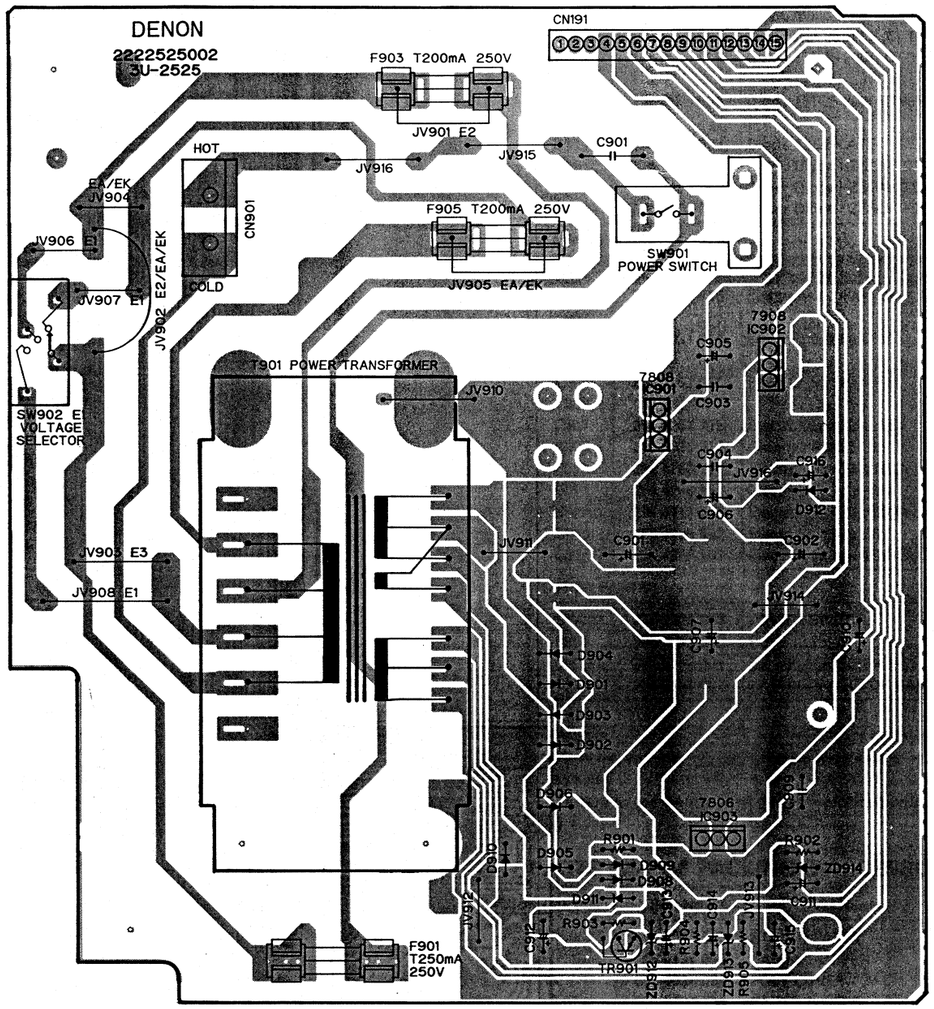
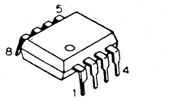


NOTES
Parts used marked------○
Parts not used marked--×

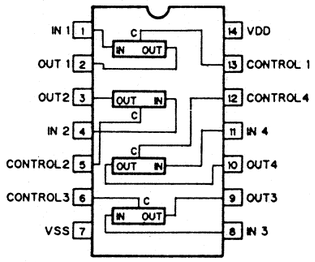
PARTS \ AREA	U.K. Australia	Europe	U.S.A. Canada	Multi Voltage (Asia)
JV901	×	○	×	×
JV902	○	○	×	×
JV903	×	×	○	×
JV904	○	×	×	×
JV905	○	×	×	×
JV906	×	×	×	○
JV907	×	×	×	○
JV908	×	×	×	○
F903	×	×	×	○
F905	×	×	×	○
Voltage Selector	×	×	×	○

SEMICONDUCTORS

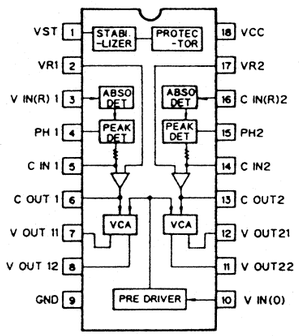
• IC



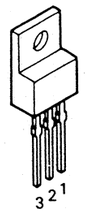
- BA15218
- UPC4570C



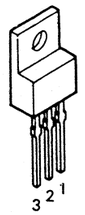
- HD14066BP



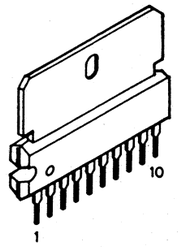
- μPC1297CA

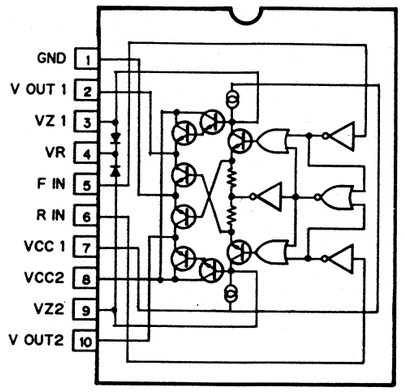


- MC7908



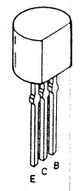
- MC7808
- MC7806CT



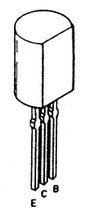


- BA6109U1

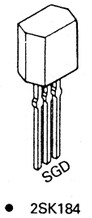
• Transistors



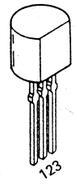
- 2SA933
- 2SC2603
- 2SK373

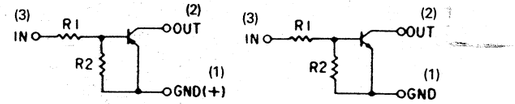


- 2SB562

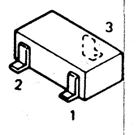


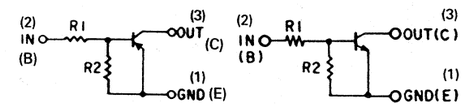
- 2SK184





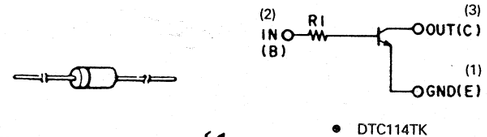
- DTA114TS
- DTA144ES
- DTA144WS
- DTC114ES
- DTC124XS
- DTC143TS
- DTC144ES





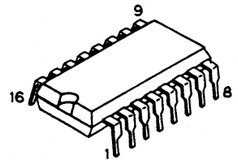
- DTA114EK
- DTA124EK
- DTC114EK
- DTC124EK
- DTC143EK
- DTC144EK

• Diodes

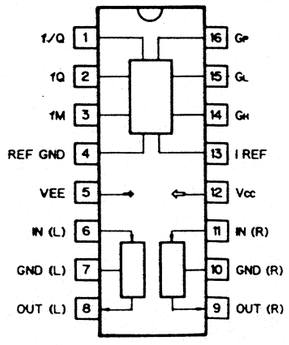


- DTC114TK

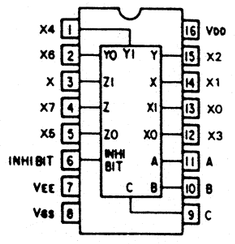
- IS2076A
- ISS270A
- ISR35-200A
- HZS4C-1
- HZS5C-1
- HZS7B-1
- HZS6A-1
- HZS9B-1
- HZS9A-1
- HZS27-1



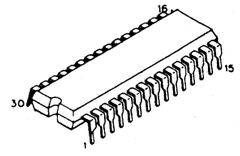
- CXA1198AP
- HD14051BP

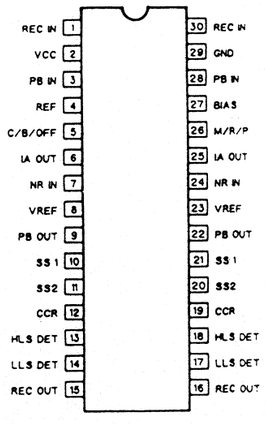


- CXA1198AP

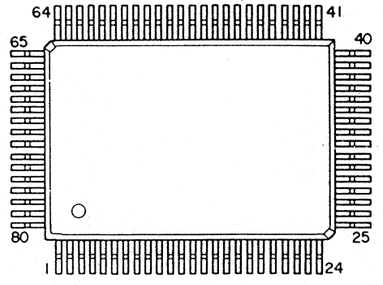


- HD14051BP



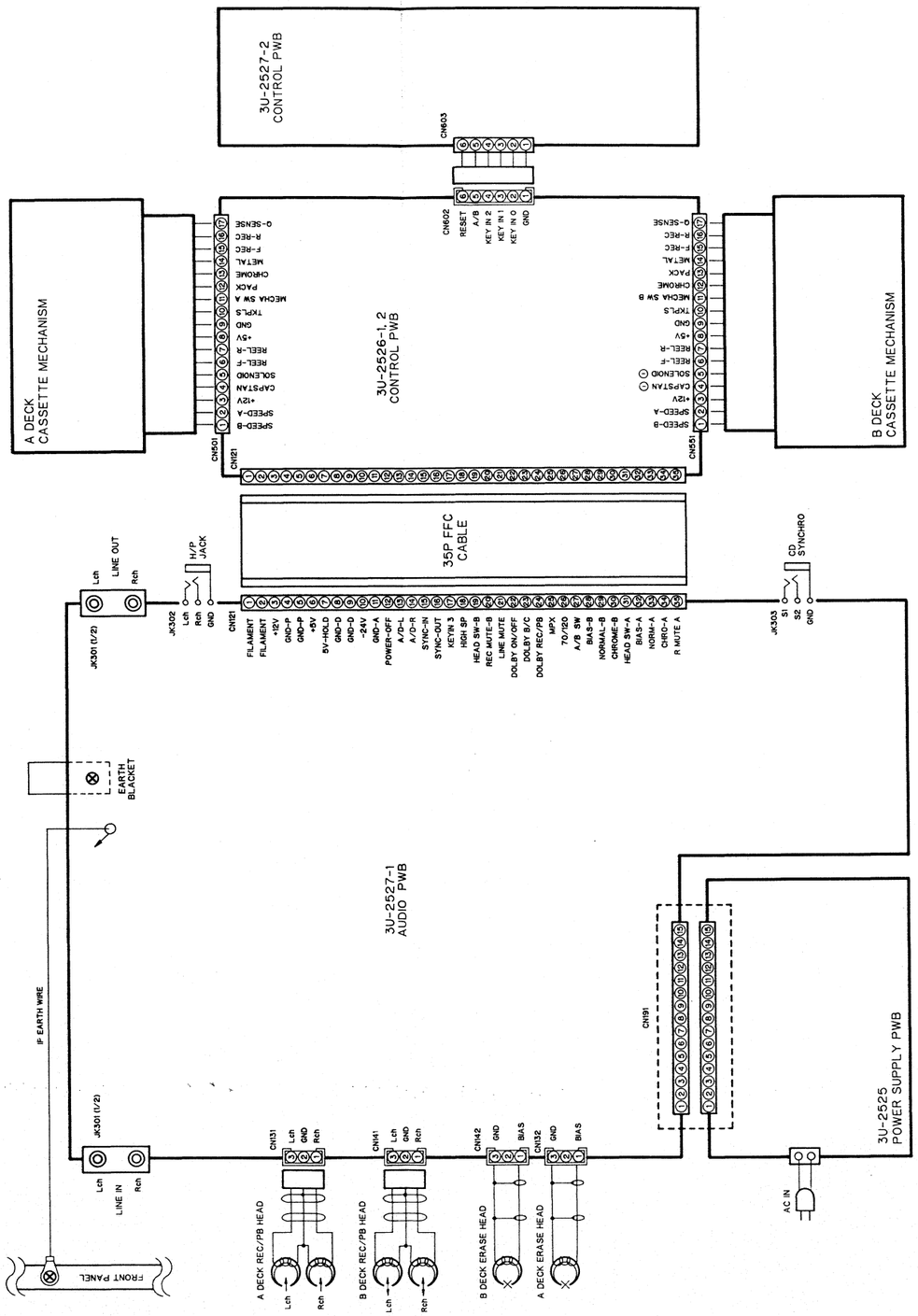


- HA1217ONT

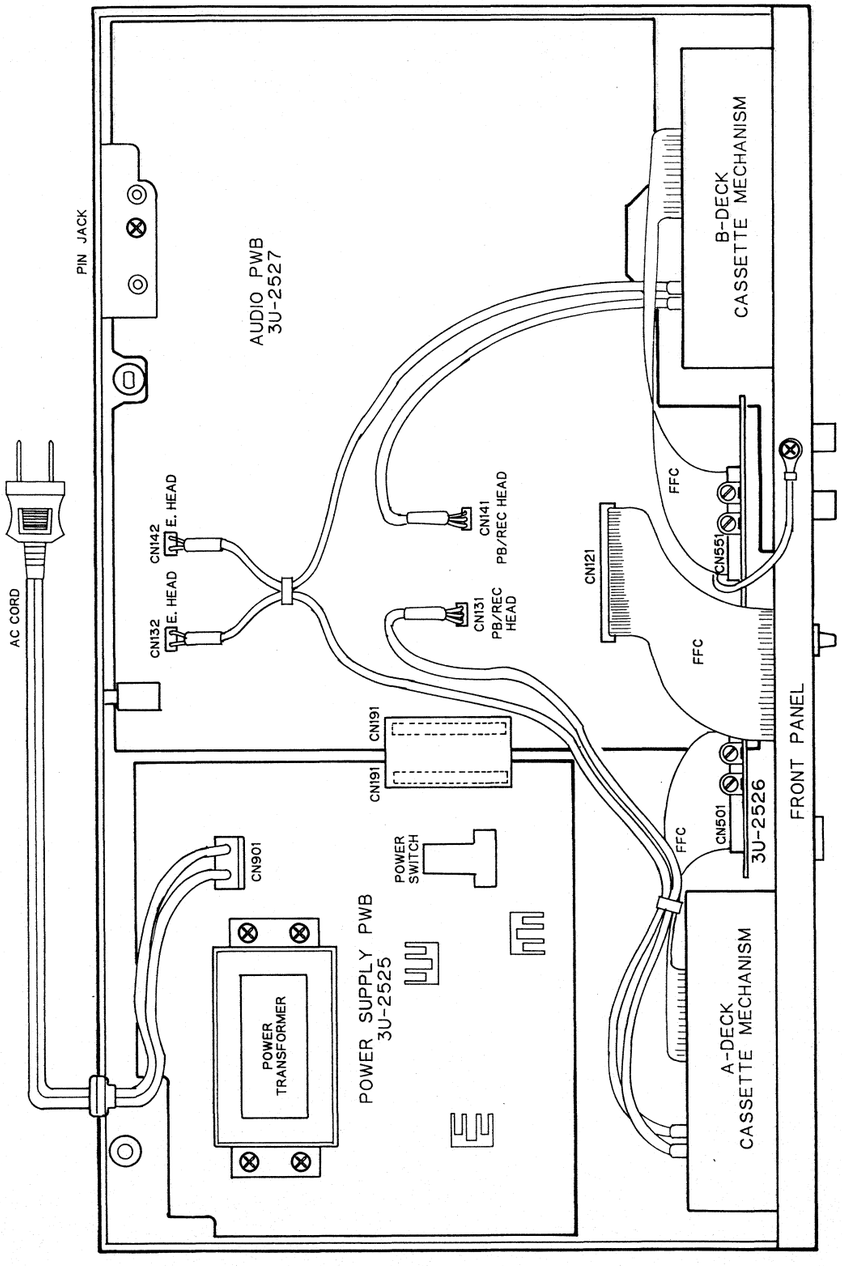


- μPD7842-3BE-012
(μCOM)

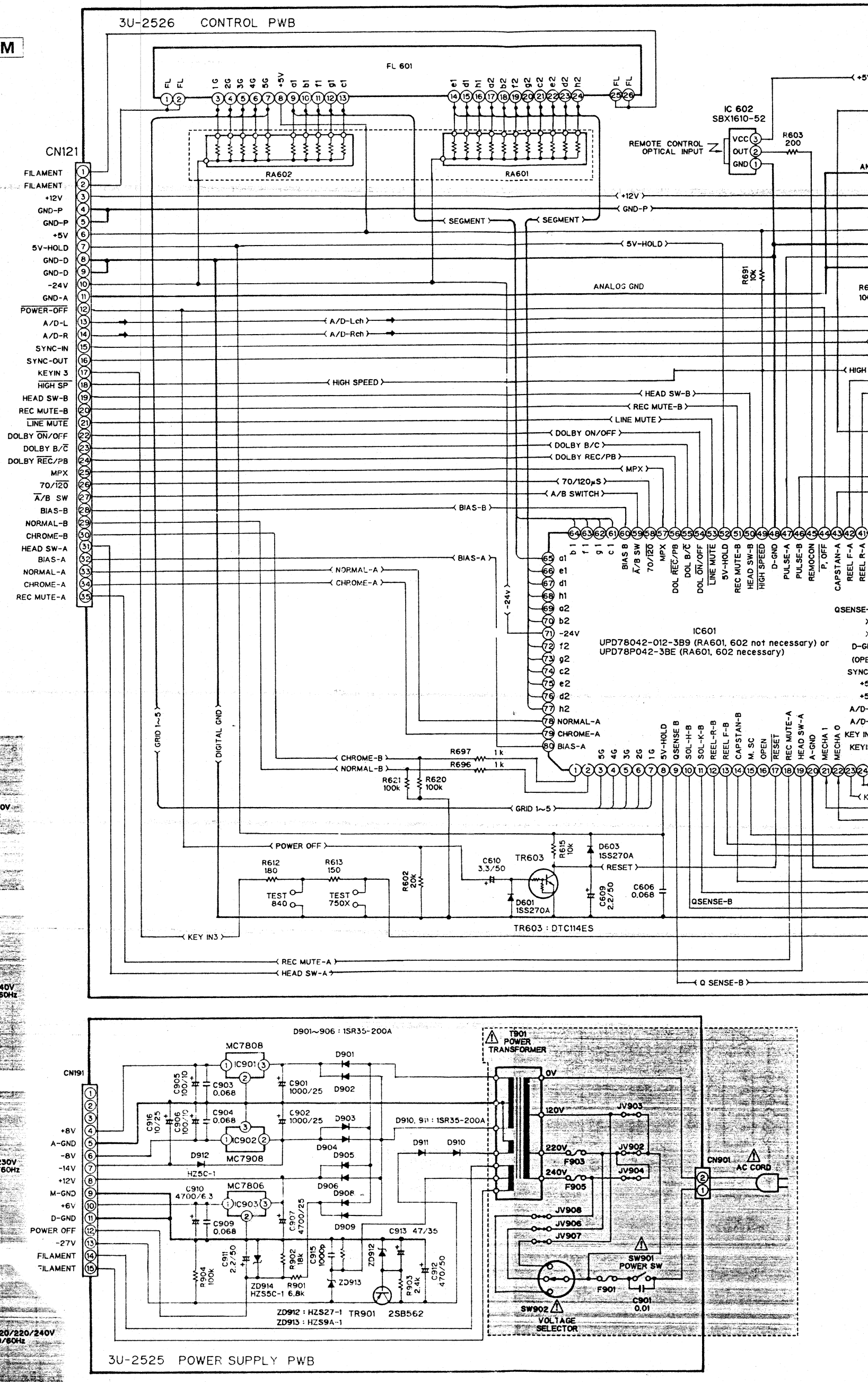
WIRING DIAGRAM

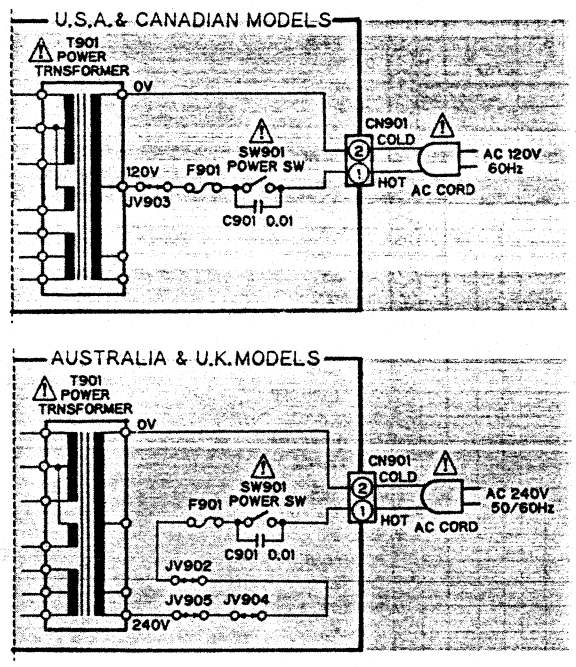


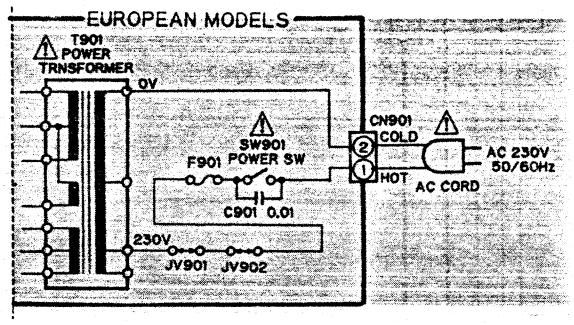
BUNDLE DIAGRAM

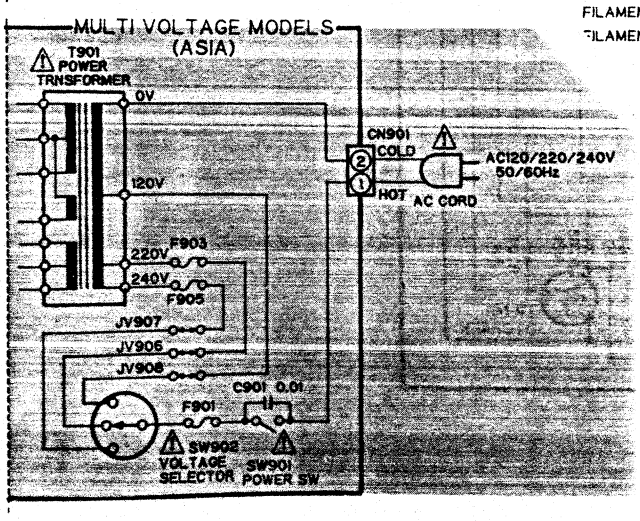


SCHEMATIC DIAGRAM

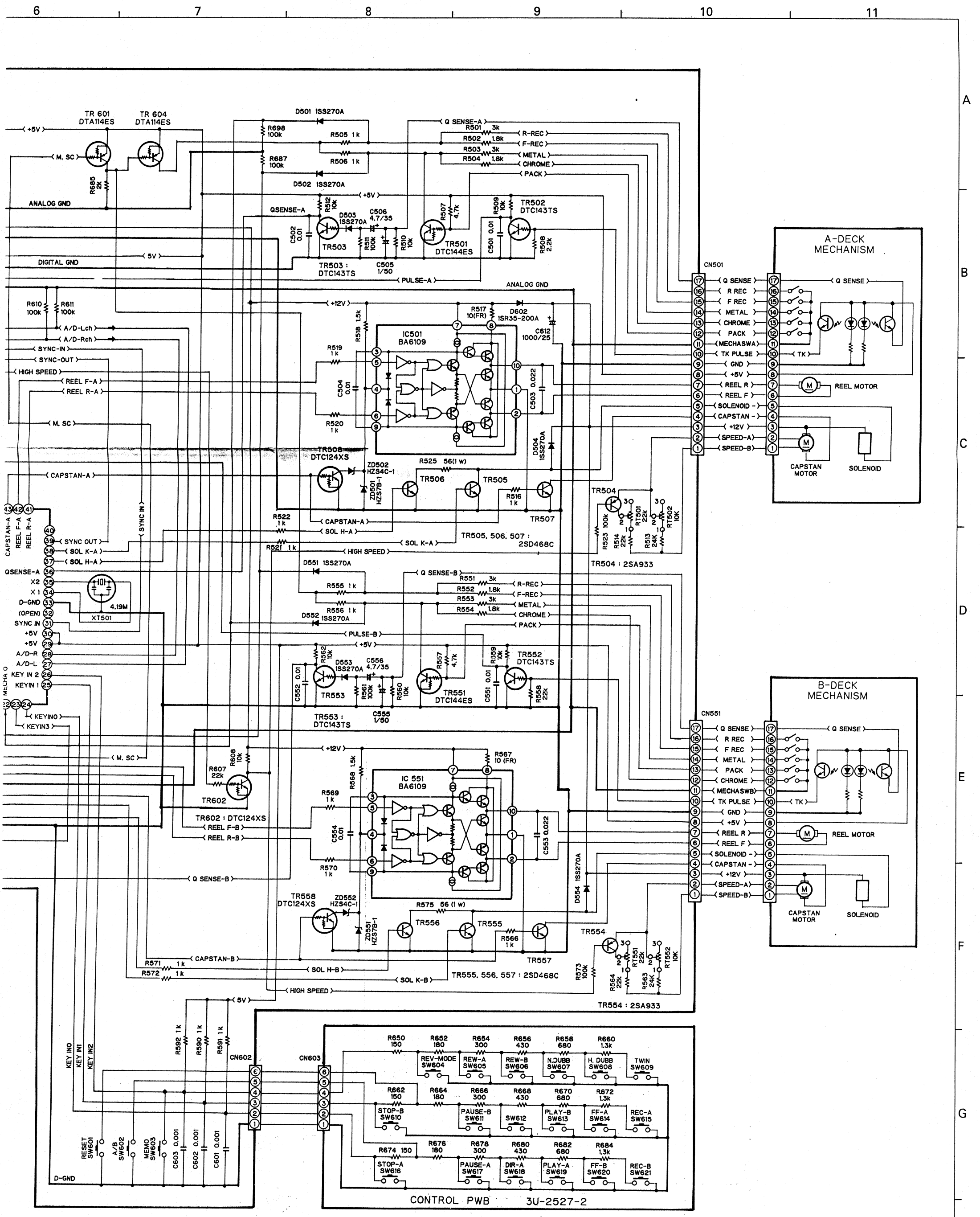








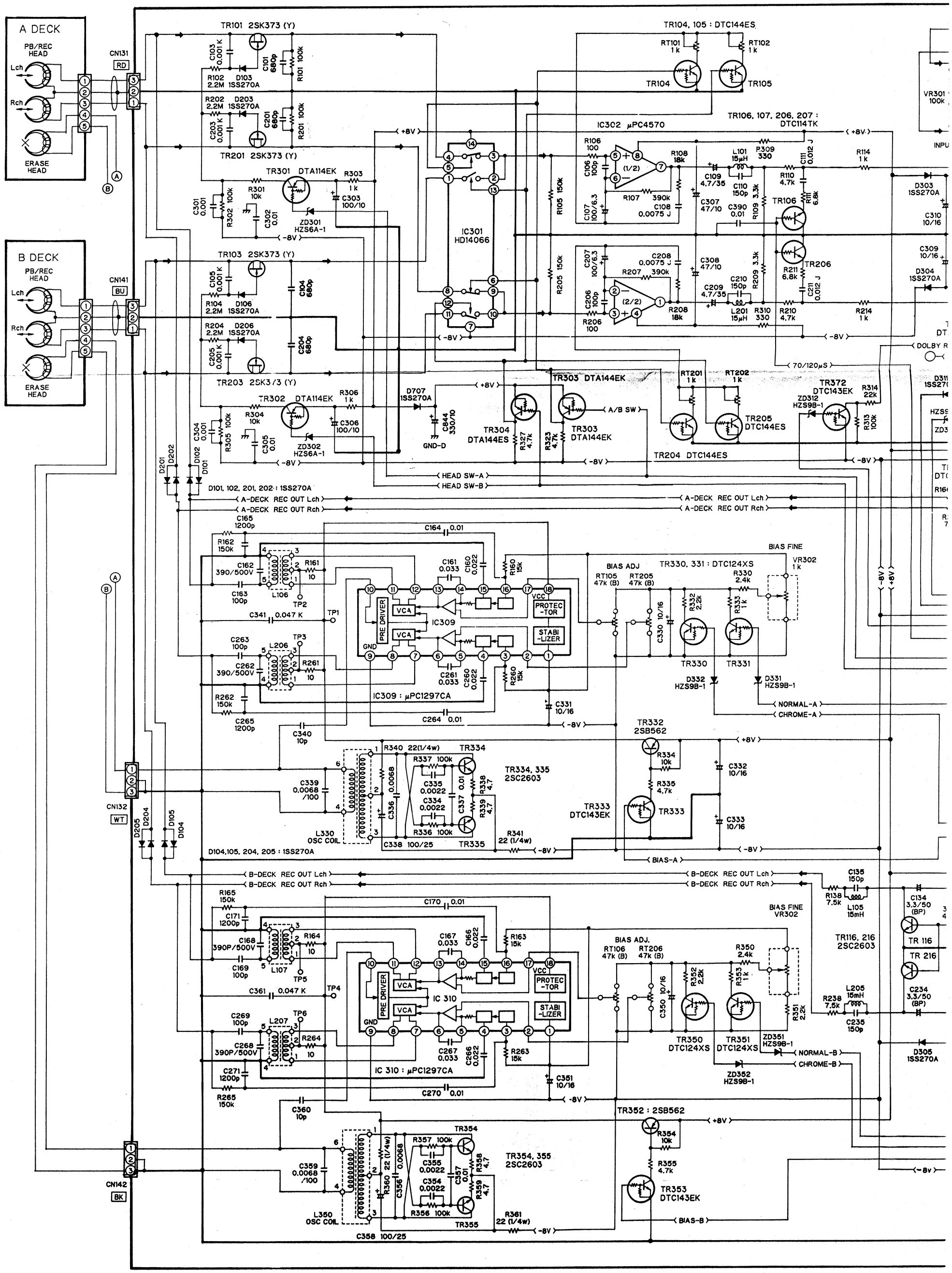
3U-2525 POWER SUPPLY PWB

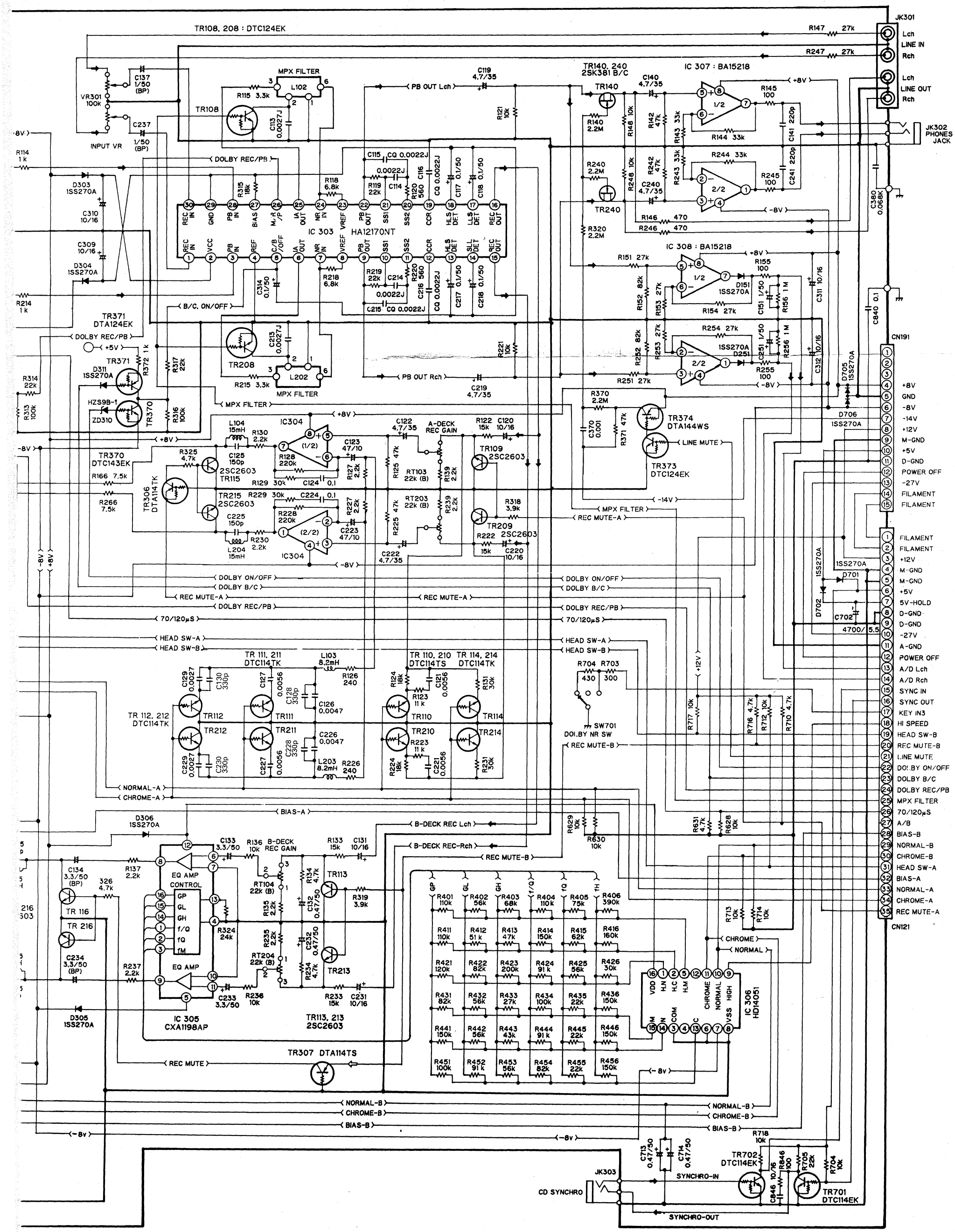


Note:
- Resistance shall be 1/4 W unless otherwise specified and the unit is Ω.
- The unit of capacitor is μF, P is pF unless otherwise specified.
- This circuit diagram shows the basic circuit. It is subject to change for the purpose of improvement.

Parts marked with this symbol ⚠ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

SCHEMATIC DIAGRAM

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TR140, 240 2SK381 B/C
IC 307 : BA15218
IC 303 HA12170NT
IC 308 : BA15218
IC304
IC 305 CXA1198AP
IC 306 HD14051
TR371 DTA124EK
TR370 DTC143EK
TR306 DTA114TK
TR111, 211 DTC114TK
TR110, 210 DTC114TS
TR114, 214 DTC114TK
TR112, 212 DTC114TK
TR374 DTA144WS
TR373 DTC124EK
TR109 2SC2603
TR209 2SC2603
TR215 2SC2603
TR115 2SC2603
TR113, 213 2SC2603
TR307 DTA114TS
TR702 DTC114EK
TR701 DTC114EK
MPX FILTER
INPUT VR
VR301 100k
JK301
JK302 PHONES JACK
JK303
CD SYNCHRO
CN191
CN121
SW701 DOLBY NR SW
PB OUT Lch
PB OUT Rch
DOLBY REC/PB
B/C. ON/OFF
+5V
+8V
-8V
-14V
DOLBY ON/OFF
DOLBY B/C
REC MUTE-A
70/120μS
HEAD SW-A
HEAD SW-B
REC MUTE-B
NORMAL-A
CHROME-A
BIAS-A
B-DECK REC Lch
B-DECK REC-Rch
REC MUTE
LINE MUTE
SYNCHRO-IN
SYNCHRO-OUT
A-DECK REC GAIN
B-DECK REC GAIN
EQ AMP CONTROL
EQ AMP
LINE IN Lch
LINE IN Rch
LINE OUT Lch
LINE OUT Rch
CN191
1 FILAMENT
2 FILAMENT
3 +12V
4 M-GND
5 M-GND
6 +5V
7 5V-HOLD
8 D-GND
9 D-GND
10 -27V
11 A-GND
12 POWER OFF
13 A/D Lch
14 A/D Rch
15 SYNC IN
16 SYNC OUT
17 KEY IN3
18 HI SPEED
19 HEAD SW-B
20 REC MUTE-B
21 LINE MUTE
22 DOLBY ON/OFF
23 DOLBY B/C
24 DOLBY REC/PB
25 MPX FILTER
26 70/120μS
27 A/B
28 BIAS-B
29 NORMAL-B
30 CHROME-B
31 HEAD SW-A
32 BIAS-A
33 NORMAL-A
34 CHROME-A
35 REC MUTE-A